Addendum No. 2
December 10, 2021

Project: Harrisburg High School - 9th Grade Academy
Sioux Falls, South Dakota
Architecture Incorporated Project #2904

Architect: Architecture Incorporated

Letting: Thursday, December 16th, 2021
2:00 p.m.

Location: Community Center Conference Room at the Harrisburg School District Administration Offices, 200 Willow Street, Harrisburg, South Dakota 57032. (Enter from southeast community center entrance).

Scope of this Addendum:

To all bidders and all others to whom drawings and specifications have been issued by Architecture Incorporated, this Addendum forms a part of the Contract Documents. Acknowledge receipt of this addendum by listing its number and date in the bidder's Form of Proposal. Failure to do so may subject bidder to disqualification. This addendum modifies the drawings and specifications as follows:

GENERAL ITEMS:

1) GENERAL CLARIFICATIONS

   a) Reflected Ceiling Plans: Generally speaking, all corridor wall should extend & seal to the structure/deck above. This is shown incorrectly (i.e. – backwards) on the reflected ceiling plans.

      i) The room / classroom side walls should stop just above the acoustical ceiling as shown per typical door head details 1 & 2 on Sheet 4.33 and the corridor wall shall extend full height.

         (1) Exception: At door B105 both walls extend to structure above as indicated per detail 9/4.33 & Sheet 6.10-1B.

   b) Metal soffit panels should be installed perpendicular to exterior walls. (typ)

   c) The Contractor shall furnish and install a 2-inch raceway from the (future) lift station to the CT cabinet under his Base Bid. Reference Sheet 2.70 for lift station location.

   d) The Contractor shall have the option of installing gypsum board assemblies over cross-corridor doors - in lieu of masonry - where walls are indicated to be sealed to the deck/structure above but also require large openings for the passage of ductwork or other items. This substitution shall be deemed acceptable provided the assembly is constructed to meet the same fire rating as would be required of the masonry wall. (e.g. – over doors D139-1 & D139-2)

   e) Interior Elevations: Generally speaking, the header assembly over typical classroom doors shall be constructed of gypsum board as indicated per the door head details identified per the Door Schedule. These wall areas inadvertently show up as masonry on several interior elevations – which is incorrect. The type of construction required over doors shall be dictated by the details referenced via the Door Schedule.

2) **REVISED** BID FORM

a) By receipt of this Addendum, all bidders acknowledge receipt of a modified bid form. The bid form has been modified to include ADD Alternates No. 7A, 7B and 7C. Reference '***REVISED Form of Proposal***' form attached to the end of this addendum

3) SECTION 012300 – ALTERNATES

a) CLARIFICATION: As noted in the description for ADD Alternate No. 1, the addition of classrooms E114, E118, E214 & E218 are to be accounted for on the basis of the Base Bid. As such, these rooms shall be priced accordingly in ADD Alternate No. 1.

i) As specified, typical classrooms are to be priced with bare concrete floors per the Base Bid.

(1) DO NOT include floor coverings in the ADD Alternate No.1 pricing for classrooms E114, E118, E214 & E218.

b) Add ADD Alternates No. 7A, 7B & 7C to the *Schedule of Alternates* at the end of Section 012300, as follows:

J. [ADD] Alternate No. 7A – Siemens Auto Temp. Control / Building Automation System:

1. State the amount to be ADDED to the base bid furnish and install an Automatic Temperature Control/Building Automation System (ATC/BAS) as manufactured by Siemens (Apogee).

a. The Base Bid shall not include any provisions for automatic temperature control / building automation systems.

i. ADD Alternate No. 7A / 7B / 7C shall take precedence over the automatic temperature control / building automation system provisions originally specified.

K. [ADD] Alternate No. 7B – Siemens Auto Temp. Control / Building Automation System:

1. State the amount to be ADDED to the base bid furnish and install an Automatic Temperature Control/Building Automation System (ATC/BAS) as manufactured by Schneider Electric (TAC/IA Series).

a. The Base Bid shall not include any provisions for automatic temperature control / building automation systems.

i. ADD Alternate No. 7A / 7B / 7C shall take precedence over the automatic temperature control / building automation system provisions originally specified.

L. [ADD] Alternate No. 7C – Siemens Auto Temp. Control / Building Automation System:

1. State the amount to be ADDED to the base bid furnish and install an Automatic Temperature Control/Building Automation System (ATC/BAS) as manufactured by

Distech Controls.

a. The Base Bid shall <u>not</u> include any provisions for automatic temperature control / building automation systems.

i. ADD Alternate No. 7A / 7B / 7C shall take precedence over the automatic temperature control / building automation system provisions originally specified.

2) <u>SECTION 034500 – PRECAST ARCHITETCURAL CONCRETE</u>

a) Precast architectural concrete wall panel fabricators not designated as a PCI-certified plant for Category [**AB**] - *Architectural Cladding and Load Bearing Units* at time of bidding may be deemed acceptable to bid the ***Harrisburg High School – 9th Grade Academy*** project provided that they comply with the following provisions:

i) The fabricator must provide a minimum of five project references that are similar in size and scope that have been completed within the last two years. Project references must include the project name, location, general contractor, job superintendent, and contractor's phone number.

ii) The fabricator shall also meet or exceed all of the requirements set forth per PCI's Architectural Certification Program to be considered fully qualified as a PCI-certified plant for Certification Category [**AC]**.

iii) The fabricator must submit a copy of their quality control procedure manual to both the Engineer of Record and the Architect of Record.

iv) The fabricator must submit the five references and a copy of their quality control manual to both the Engineer of Record and the Architect of Record for review and approval not less than five (5) days prior to the bid opening date.

v) Upon acceptable review of the information submitted, the fabricator may be pre-approved for bidding; pre-approved fabricators will be notified by the Architect of Record.

b) Pre-Approved [**Category - AC]** Precast Architectural Concrete Wall Panel Fabricators:

i) Collins Precast; 19606 Collins Avenue, Iroquois, South Dakota is approved as an architectural concrete wall panel fabricator for this Project.

ii) Taracon Precast; 6189 170th St. N, Hawley, Minnesota is approved as an architectural concrete wall panel fabricator for this Project.

3) <u>SECTION 088000 - GLAZING</u>

a) Add article 2.5.C. to Section 088000 as shown below:

C. Laminated Ceramic Glazing: Laminated glass made from plies of clear, ceramic flat glass; [1-1/2-inch] nominal overall thickness; complying with ASTM E119 and NFPA 251 (120 minutes with hose stream). Impact Safety Resistance: ANSI Z97.1 and CPSC 16CFR1201 (Cat. I and II).

1. ***Products: Subject to compliance with requirements, [provide the following]:***

    a. ***Safti First; [SuperLite II-XL 120].***

2. ***Fire Rating: [120 minutes].***

3. ***Application: Install at all fire-rated [borrowed lite] [side lite] locations, including at door opening D103; see plans.***

4) SECTION 098433 – SOUND-ABSORBING WALL UNITS

a) Provide 2-inch thick fabric-wrapped wall panels in the Auditorium; disregard all reference to 3-inch thick panels in the Auditorium.

i) Revise article 2.3.B.10. to read as follows:

10. Thickness: 2 inch (NRC 1.05) unless noted otherwise on drawings. ~~3 inch (NRC 1.10) in Auditorium~~.

b) Revise article 2.5.B.1.n. to read as follows:

n. Location: Commons B100.

c) Revise article 2.5.B.1.o.1) to read as follows:

1) Utilized at locations noted as Tectum-2 on the drawings.

5) SECTION 230800 – VENTILATION AND AIR CONDITIONING

a) Add the following to mechanical Section 230800:

DUST COLLECTOR:

Furnish and install a shop dust collection system.

Dust collection system shall consist of two principle components; a cyclone to collect larger particles and act as a spark-arrestor to minimize risk of fire, and an after-filter to filter out remaining dust and to act as a sound attenuator. Both components supplied with an epoxy primer under standard RAL # 7015 Slate Gray powder. Airflow of system shall be at least 3200 cfm @ 13.5" external static pressure.

The cyclone unit shall consist of a 30" diameter high-efficiency cyclone separator section, integrally mounted fan on "clean" side of cyclone, pressure relief door, supporting welded angle iron stand, and two 55 gallon drums with drum cover assemblies. The inlet shall be 12" diameter with companion ring for the inlet isolation device, and outlet to be 16".

Fan shall be backward-inclined design for non-overloading operation. Fan wheel shall be constructed of spark-resistant AMCA type "B". Fan motor shall be 15 HP TEFC rated for 460V, 3-phase, 60 Hz operation.

After-filter shall consist of a high-efficiency bag section, shaker assembly, weather-proof enclosure panels including 1 pressure-relief panel, automatic shaker controls, and a single

dust bin drawer. The top plenum of the after filter shall be outfitted with an acoustical lining to mitigate sound, and alignment legs providing the inlet to line up with the cyclone outlet. Clean air outlet 28" X 24" with a 90 degree up-turn transition to 16" diameter square to round transition.

After-filter shall have a minimum of 383 square feet of filter media. Media shall be Napped Polyester sateen with a seasoned efficiency of 99.9% at 1 micron.

After-filter shall be provided with an automatic electrically operated shaker mechanism including a 1/4 HP shaker motor (230/460V/3-ph/60hz) and an automatic shaker control.

Custom control panel shall be a single UL listed cabinet including motor starters, panel disconnects, circuit breakers, shaker controls, in a NEMA 12 enclosure, to be installed indoors.

Dust collector shall consist of Model 70SN70-D2 (Cyclone) and Model FT40 (After-filter) manufactured by Aget Mfg. or pre-approved equal.

The dust collector shall be provided with an inlet isolation device, mounted prior to the collector inlet per manufacturer's recommendation.

The inlet isolation device or "backdraft damper", shall be a gravity damper designed with a blade and counter weighted arm, to be installed horizontally. When air is not traveling through the pneumatic system, the damper blade should be in the closed resting position, not latched. When air is traveling through the pneumatic system, the blade will be freely drawn open.

In the event of reverse airflow through the backdraft damper, the blade is designed to slam shut and latch in the closed position. A blade/shaft latch assembly is mounted on the side of the unit with an arm that is attached to the blade shaft. A grid bar supported aluminum explosion vent mounted to the top of the backdraft damper will then deploy, relieving pressure vertically into the atmosphere.

The backdraft damper shall be equipped with a limit switch to provide an electrical signal to the control panel, indicating that the damper is in the closed/latched position. When triggered, the limit switch shall eliminate power to the fan motor of the dust collector. Wiring of the limit switch to the control panel shall be provided by others.

The damper shall be constructed of 12 ga continuous welded steel, primed and finished with 2 coats of industrial OSHA Yellow enamel.

The inlet isolation device shall be a single Clarke's 12" diameter integrated backdraft damper & explosion vent w/ limit switch.

Provide Safety Monitoring Filter (SMF) for air being returned to woodshop from the dust collection system. SMF to be installed on the interior of the woodshop as high up as is practical. SMF to be rated for an airflow of up to 4000cfm. SMF to consist of the following components:

1. *Transition ductwork. (by Mechanical Contractor) Provide and install transition of galvanized sheet metal to adapt incoming ductwork to SMF Glide pack in accordance with best industry practices.*

2. *SMF Farr Rigi-Flo Glide Pack. 2 Stage dual side access housing to be constructed of 16-gage galvanized steel with polyurethane gasketing.*

3. ***Safety Filters. - Provide and install 2 - Farr Riga-Flo 200 safety filters. Each filter to have a nominal dimension of 23-3/8" x 23-3/8" x 12" (deep) and each be capable of airflows up to 2000cfm. Filters will have a minimum ASHRAE 52.5-1999 MERV-rating of 14. Pre filters. 2 - Farr 30/30 pre filters- medium efficiency ASHRAE 25-30%.***

4. ***Magnahelic Gage. Provide and install a Magnahelic gage and mounting kit for monitoring pressure-drop across the safety filters. Gage to be installed in proximity to the dust collector motor starter controls. Gage will have a range of 0-4" w.c. High-pressure side of gage shall be connected to SMF ductwork transition ("dirty-side" of safety filters) by means of UV-resistant ¼" black poly-tubing. Low-pressure side of gage shall be open to atmosphere.***

b) Add the following to the *DUCTLESS MINISPLIT* article in mechanical Section 230800:

Indoor, under-ceiling mounted, direct-expansion fan coil to be matched with the commercial condensing unit. Units shall be rated (when matched with appropriate outdoor unit) per ARI Standard 210/240. Units shall be certified by UL and CSA. DELIVERY, STORAGE, AND HANDLING Units shall be stored and handled per manufacturer's recommendations. Warranty shall be for one year.

Indoor, direct-expansion, ceiling-suspended fan coil. Fan coil shall be shipped complete with cooling coil, fan, fan motor, piping connectors, electrical controls, solid-state electromechanical control system, and ceiling mounting brackets. Cabinet shall be zinc-coated bonderized steel finished with a baked enamel paint. Inlet grilles shall be attractively styled, high-impact polystyrene. Matching mounting brackets shall be provided. Fans shall be centrifugal blower type with air intake in the bottom rear of the unit and discharge in the front. Automatic motor-driven vertical air sweep shall be provided.

Coils shall be copper tube with aluminum fins and galvanized steel tube sheets. Fins will be bonded to the tubes by mechanical expansion. A drip pan under the coil shall have a drain connection for attachment of piping to remove condensate.

Motors shall be permanently lubricated with inherent overload protection. Fan motor shall be 3-speed.

Controls shall consist of a solid-state electromechanical control system which shall control space temperature and determine optimum fan speed. The temperature control range shall be from 64 F to 84.

The unit shall have the following functions as a minimum:

1. ***An automatic restart after power failure at the same operating conditions as at failure.***
2. ***Non-programmable thermostat to provide cooling and heating set points and day/night set-back modes.***
3. ***Wired control to enter set points and operating conditions.***
4. ***Filter status indication after 250 hours of indoor fan operation.***
5. ***Automatic airsweep control to provide on or off activation of airsweep louvers.***
6. ***Cooling mode to provide modulating fan speed based on difference between temperature set-point and space temperature.***
7. ***Fan only operation to provide room air circulation when no cooling is required.***

8. ***A 50-ft indoor to outdoor control connection cable shall be provided with the fan coil unit.***
9. ***Fan speed control shall be user-selectable: high, medium, low, or automatic operation during all operating modes.***

Unit shall have filter track with factory-supplied cleanable filters.

Unit shall operate on a 208-v or 230-v, 60 Hz power supply as specified on the equipment schedule.

A field installed, manufacturer provided, condensate pump shall remove condensate from the pan when gravity cannot be used. The lift capability shall be 20 inches. Float control shall be in the condensate sump to shut unit down in case of pump malfunction.

Thermostat shall be commercial grade and shall provide 7-day, 4-event scheduling. Integral sub-base shall be included. Thermostat shall also provide 3-speed fan switchover capability, air sweep auto changeover, and shall not require a battery to retain memory.

Ductless split systems shall be Carrier, Daikin, Mitsubishi or equal.

6) SECTION 230900 – AUTOMATIC TEMPERATURE CONTROL / BAS

a) Modify article 1.23 in mechanical Section 23900 as follows:

1.23 – SEQUENCE OF OPERATION:

Welding Hood Fan and Transfer Fan:

Modulate VFD for the welding hood fan to maintain a duct static pressure of 2.5" (adj.). Modulate VFD for transfer fan to maintain a -0.05" W.C. space pressure with relation to the adjacent corridor. Provide a current switch or differential pressure switch across the fan to prove fan operation and provide status on graphics.

Combustion Air Control:

Whenever boilers B-1 or B-2 fire, the Boiler Room AHU shall be modulate the RA and OA air dampers to maintain the boiler room at a neutral pressure in relation to the commons space. The Boiler Room AHU and combustion air dampers shall also act as an intake air damper and open whenever the boiler room exhaust fan is started. The Boiler room AHU and RA/OA air dampers shall be open before the burner operates. Boiler room AHU shall modulate the heating water valve and activate the coil pump to maintain space set point.

Equipment Room Exhaust Fans:

A space temperature sensor shall enable the boiler room AHU and start the exhaust fan if the space temperature rises above 80 degrees F. (adj.). The boiler room AHU shall modulate the RA and OA dampers to maintain a neutral pressure in the boiler room with respect to the commons. The BAS shall monitor the refrigeration leak detection system to start the EF and AHU. The BAS shall deactivate the boilers and water heaters when the refrigerant monitor is in alarm. Provide a current switch or differential pressure switch across the fan to prove fan operation and show status on the graphic. If operation is not proven after the BAS has commanded the fan to start, an alarm shall be initiated at the

operator's workstation.

Data rooms shall have a space sensor to start the EF and alarm the BAS whenever the space temperature is 5 degrees above setpoint.

7) SHEET 2.10 – TOPOGRAPHIC SURVEY

a) Add the following plan note to Sheet 2.10:

WARNING. HIGH PRESSURE PIPELINE(S). EXCAVATION AND/OR CONSTRUCTION PROHIBITED WITHOUT COMPLIANCE WITH STATE ONE-CALL, AND WITHOUT WRITTEN PERMISSION FROM MAGELLAN PIPELINE COMPANY.

8) SHEET 2.60 – OVERALL GRADING PLAN

a) Add the following plan note to Sheet 2.60:

WARNING. HIGH PRESSURE PIPELINE(S). EXCAVATION AND/OR CONSTRUCTION PROHIBITED WITHOUT COMPLIANCE WITH STATE ONE-CALL, AND WITHOUT WRITTEN PERMISSION FROM MAGELLAN PIPELINE COMPANY.

9) SHEET 2.61 – DRAINAGE PLAN

a) Add the following plan note to Sheet 2.61:

WARNING. HIGH PRESSURE PIPELINE(S). EXCAVATION AND/OR CONSTRUCTION PROHIBITED WITHOUT COMPLIANCE WITH STATE ONE-CALL, AND WITHOUT WRITTEN PERMISSION FROM MAGELLAN PIPELINE COMPANY.

10) SHEET 2.62 – DRAINAGE PLAN

a) Add the following plan note to Sheet 2.62:

WARNING. HIGH PRESSURE PIPELINE(S). EXCAVATION AND/OR CONSTRUCTION PROHIBITED WITHOUT COMPLIANCE WITH STATE ONE-CALL, AND WITHOUT WRITTEN PERMISSION FROM MAGELLAN PIPELINE COMPANY.

11) SHEET 2.63 – DRAINAGE PLAN

a) Add the following plan note to Sheet 2.63:

WARNING. HIGH PRESSURE PIPELINE(S). EXCAVATION AND/OR CONSTRUCTION PROHIBITED WITHOUT COMPLIANCE WITH STATE ONE-CALL, AND WITHOUT WRITTEN PERMISSION FROM MAGELLAN PIPELINE COMPANY.

12) SHEET 2.70 – UTILITY PLAN

a) Add the following plan note to Sheet 2.70:
WARNING. HIGH PRESSURE PIPELINE(S). EXCAVATION AND/OR CONSTRUCTION PROHIBITED WITHOUT COMPLIANCE WITH STATE ONE-CALL, AND WITHOUT WRITTEN PERMISSION FROM MAGELLAN PIPELINE COMPANY.

b) Callout W7 has been changed from ~~*2 – 8" x 6" MJ Gate Valves*~~ to ***2 - 8" x 6" MJ Tees***.

13) SHEET 2.71 – UTILITY CROSSINGS

a) Add the following plan note to Sheet 2.71:

WARNING. HIGH PRESSURE PIPELINE(S). EXCAVATION AND/OR CONSTRUCTION PROHIBITED WITHOUT COMPLIANCE WITH STATE ONE-CALL, AND WITHOUT WRITTEN PERMISSION FROM MAGELLAN PIPELINE COMPANY.

14) SHEET 3.10 – SPECIFICATIONS

a) Reference Design Criteria heading: Change ~~*Design Code: 2018*~~ to ***Design Code: 2021***.

15) SHEET 3.20-1C – FOUNDATION PLAN – AREA C

a) Change dimension of ~~*7'-6 1/16"*~~ to ***7'-2"*** between north and south side precast walls in Vestibule C102.

b) Change dimension of ~~*6'-10"*~~ to ***6'-8"*** between north and south side precast walls in Vestibule C103.

16) SHEET 3.20-1E – FOUNDATION PLAN – AREA E

a) CLARIFICATION: Sump basins shall be installed in the SW corner of Storage D140A as indicated on mechanical drawing Sheet 8.20-1E; Contractor to coordinate accordingly.

17) SHEET 3.20-2A – MECH / PENTHOUSE FLOOR & LOW ROOF – AREA A

a) Change the elevation of the W8x24 steel lintel above door A104-1 from elevation ~~*(12'-0")*~~ to ***(-8'-8")***.

18) SHEET 3.20-2B – MECH / PENTHOUSE FLOOR & LOW ROOF – AREA B

a) Reference gridline Bk: Add ¼" bottom plate to W8x24 between gridlines B11/B12.

b) Reference gridline Bk: Add ¼" bottom plate to W8x24 between gridlines B14/B17.

c) Reference gridline Bk: Add W8x24* steel lintel with elevation (-8'-8") for Door B105 wall opening. Top of steel for W16x26* to be (13'-4") west of gridline B11.

d) Reference gridline Bk: Bottom of steel for W16x26* lintel for Door B120 is to be (-8'-0").

19) SHEET 3.20-2E – SECOND FLOOR – AREA E

a) Add section cut for detail 9/3.61 along gridline E3 between gridlines Ec and Ed. Label as "***Base Bid***".

b) Provide composite acoustical floor deck throughout Corridor E200 / Learning Center E215 between Grid E2 & Grid E17 and between Grid Ec & Ed. Reference Section 053100 for additional information.

i) Provide 2-inch galvanized cellular acoustic composite steel deck with insulation (18 ga / 18 ga).

20) SHEET 3.20-3A – HIGH ROOF – AREA A

a) Add section cut for detail 8/3.70 along entire length of west side deck bearing precast wall of Auxiliary Gym A100.

b) Add section cut for detail 8/3.70 along entire length of east deck bearing precast wall of Auxiliary Gym A100.

21) SHEET 3.20-3D – MAIN ROOF – AREA D

a) Omit all references to acoustical roof deck over Media Center D137; not required. Furnish and install typical non-acoustic roof deck over Media Center D137.

22) SHEET 3.20-3E – MAIN ROOF – AREA E

a) Reference steel framing between grid intersections Ec-E3 and Ee-E3. Add HSS10x8x3/8 girt at head of curtainwall system for Base Bid. Girt not required for add alternate. Connect girt to columns at grid intersections Ec-E3 and Ee-E3. See section 6/5.57 for additional information.

b) Reference steel framing between grid intersections Ec-E3 and Ee-E3. Replace note ~~***Base Bid: HHS12x8x3/8 (LONG SIDE VERTICAL)***~~ with ***Base Bid: HHS10x8x3/8 (LONG SIDE VERTICAL)***. See section 6/5.57 for additional information.

c) Reference steel framing between grid intersections Ec-E3 and Ee-E3. Replace note ~~***ADD ALT: W12x44***~~ with ***ADD ALT W21x44***.

d) Provide acoustical roof deck over Learning Center E215 between Grid E2 & Grid E3 and between Grid Ec & Ed (as a part of ADD Alternate No. 1). Reference Section 053100 for additional information.

23) SHEET 3.20-4E – MAIN ROOF – AREA E

a) Reference the W16x26 steel beam along gridline E3: Add L3x3x1/4 vertical posts @ 4'-0" to brace offset stud wall parapet similar to detail 3/3.81. Reference section 6/5.57 for additional information.

b) Provide acoustical roof deck over Corridor E200 / Learning Center E215 between Grid E2 & Grid E17. Reference Section 053100 for additional information.

24) SHEET 3.90 – SECTIONS – AREA E

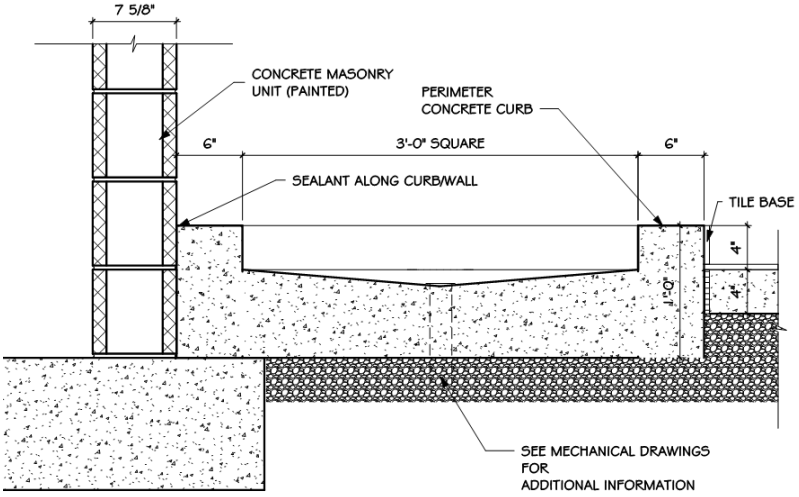
a) Reference Detail 1: Change parapet metal studs shown in detail reference 10/3.80 from ~~*800S162-43*~~ to ***800S162-54***.

b) Reference Detail 4: Change parapet metal studs shown in detail reference 10/3.80 from ~~*match stud gage*~~ to ***800S162-54***.

c) Reference Detail 5: Change ~~*TOS = 24' 8"*~~ to ***TOS = 24'-9 ½"***. Reference detail 4/5.57 for additional information.

25) SHEET 4.10-1B – FIRST FLOOR PLAN – AREA B

a) See detail below for section thru can wash in Storage/Receiving B118.



CAN WASH DETAIL
NOT TO SCALE

26) SHEET 4.10-1C – FIRST FLOOR PLAN – AREA C

a) C113 – General Lab (Wood) – Change borrowed lite to borrowed lite Type 4.

27) SHEET 4.10-1D – FIRST FLOOR PLAN – AREA D

a) D111 – Work – Locate the 4'-0" wide opening into the Work Room 2'-4" from the south wall.

28) SHEET 4.10-1E – FIRST FLOOR PLAN – AREA E

a) CLARIFICATION: Sump basins shall be installed in the SW corner of Storage D140A as indicated on mechanical drawing Sheet 8.20-1E; Contractor to coordinate accordingly.

29) SHEET 4.10-2A – MECHANICAL PENTHOUSE PLAN – AREA A

a) CLARIFICATION: A 42-inch high steel pipe guardrail (and 4-inch high concrete curb) shall be installed continuous around the north and east side of the stair opening in Mechanical A200.

   i) Refence 13 / 5.42 for guardrail details.

b) CLARIFICATION: The stair assembly serving Mechanical A200 shall be constructed as steel pan treads with concrete in-fill; stringers to be fabricated from steel channels.

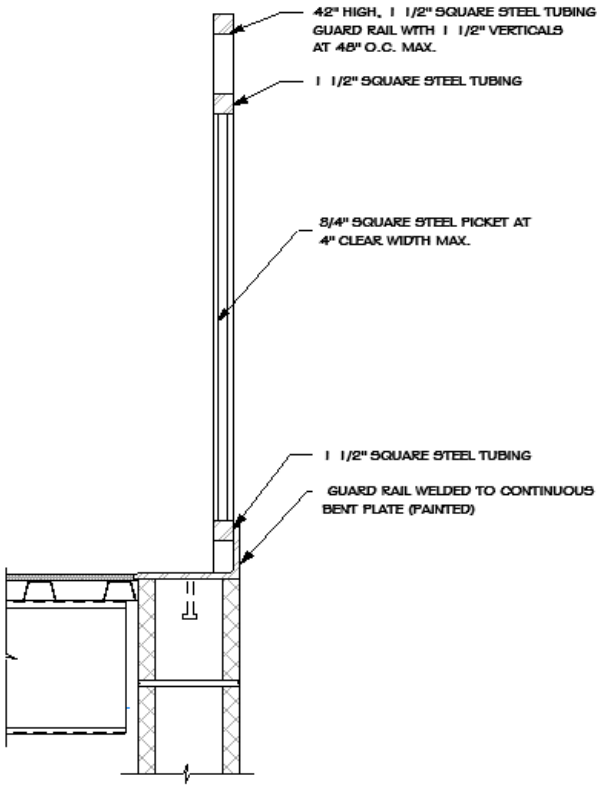
c) CLARIFICATION: The continuous cast-in-place concrete curb shown around the perimeter of Mechanical A200 shall measure 4” high x 6” wide. (typ)

   i) The cast-in-place curb shall be integral with the elevated concrete landing at the top of the penthouse stair; T.O. Concrete at top of stair landing shall be 13’-8”, as indicated per plan.

d) CLARIFICATION: A 42-inch high steel pipe guardrail shall be installed continuous along the north edge of Storage A201. This guardrail shall also continue along the east edge of Storage A201 - adjacent the stair opening that leads up to Storage A201.

   i) Reference the guardrail detail below which is to be utilized at Storage A201.

GUARDRAIL DETAIL – 10/5.42 – STORAGE A201
REF SECTION 2/5.40



e) CLARIFICATION: The stair assembly serving Storage AC201 shall be constructed as steel pan treads with concrete in-fill; stringers to be fabricated from steel channels.

30) SHEET 4.10-2B – MECHANICAL PENTHOUSE PLAN – AREA B

a) CLARIFICATION: A 42-inch high steel pipe guardrail (and 4-inch high concrete curb) shall be installed continuous around the north and east side of the stair opening in Mechanical B200.

   i) Refence 13 / 5.42 for guardrail details.

b) CLARIFICATION: The continuous cast-in-place concrete curb shown around the perimeter of Mechanical B200 shall measure 4” high x 6” wide. (typ)

   i) The cast-in-place curb shall be integral with the elevated concrete landing at the top of the penthouse stair; T.O. Concrete at top of stair landing shall be 14’-10”, as indicated per plan.

31) SHEET 4.10-2C – MECHANICAL PENTHOUSE PLAN – AREA C

a) CLARIFICATION: A 42-inch high steel pipe guardrail (and 4-inch high concrete curb) shall be installed continuous around the north, east and west sides of the stair opening in Mechanical C200.

   i) Refence 13 / 5.42 for guardrail details.

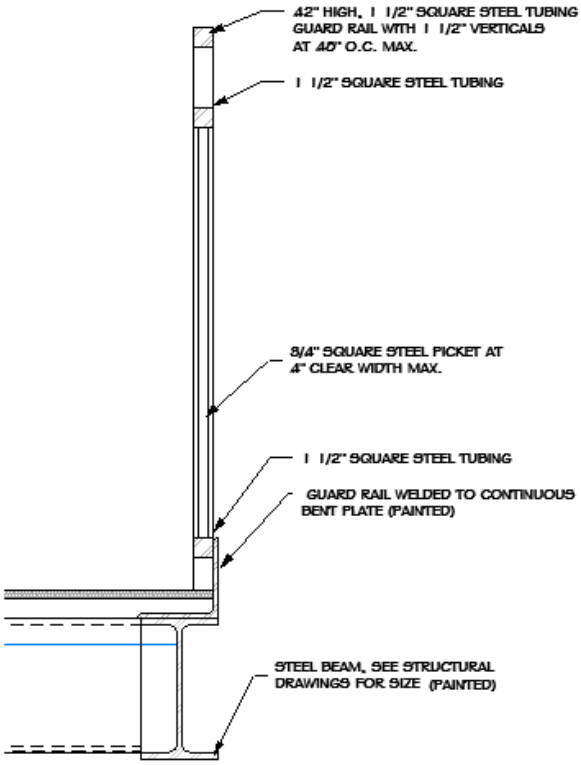
b) CLARIFICATION: The continuous cast-in-place concrete curb shown around the perimeter of Mechanical C200 shall measure 4” high x 6” wide. (typ)

   i) The cast-in-place curb shall be integral with the elevated concrete landing at the top of the penthouse stair; T.O. Concrete at top of stair landing shall be 12’-6”, as indicated per plan.

c) CLARIFICATION: A 42-inch high steel pipe guardrail shall be installed continuous around the north and west sides of the stair opening in Storage C201.

   i) Reference the guardrail detail below which is to be utilized at Storage C201

GUARDRAIL DETAIL - 11/5.42 – C201 STORAGE
REF SECTION 5/5.40



d) CLARIFICATION: The stair assembly serving Storage C201 shall be constructed as steel pan treads with concrete in-fill; stringers to be fabricated from steel channels.

e) CLARIFICATION: A 42-inch high steel pipe guardrail shall be installed continuous around the west and south sides of Storage C202. A small length of 42-inch high steel pipe guardrail shall also be installed at the SE corner of Storage C202 – adjacent the stairs.

   i) The type / style of guardrail utilized at Storage C202 shall match the guardrail shown to be installed at Storage C201.

      (1) The railing shall be attached to / embedded within the CMU (or cast-in-place concrete) curb that occurs around the edge of the storage area floor; see plans.

32) <u>SHEET 4.10-2D – SECOND FLOOR PLAN – AREA D</u>

a) CLARIFICATION: A 42-inch high steel guardrail with perforated metal in-fill shall be installed continuous around the north and east sides of the 2nd Floor stair opening at Stair D200.

   i) Reference 2 / 5.42 for guardrail details.

b) CLARIFICATION: A 42-inch high steel guardrail with perforated metal in-fill shall be installed continuous around the north and east sides of the 2nd Floor stair opening at Stair D207A.

i) Reference 2 / 5.42 for guardrail details.

33) SHEET 4.10-2E – SECOND FLOOR PLAN – AREA E

a) CLARIFICATION: A 42-inch high steel guardrail with perforated metal in-fill shall be installed continuous around the north and west sides of the 2nd Floor stair opening at Stair E219.

i) Reference 2 / 5.42 for guardrail details.

34) SHEET 4.10-3E – MECH. PENTHOUSE CLERESTORY PLAN – AREA E

a) CLARIFICATION: A 42-inch high steel guardrail shall be installed continuous around the north and east sides of the stair opening in Mechanical E300.

i) Guardrail details to be similar to 13 / 5.42.

35) SHEET 4.20-1C – FIRST FLOOR FINISH PLAN – AREA C

a) Small Theatre C101 – VESTIBULES C101 and C102: Change wall types labeled 'C2' to be precast concrete wall panels, 12" thick. See structural Addendum #2 items for additional information.

36) SHEET 4.20-1D – FIRST FLOOR FINISH PLAN – AREA D

a) Storage D111A: Provide PNT-1 at all walls in this room. Drywall finish and paint to run continuous from floor to roof deck; no base will be installed along the bottom of walls – as indicated per the Room Finish Schedule. Joists and roof deck to remain un-painted – as indicated per the Room Finish Schedule.

b) Storage D141A: Provide PNT-1 at all walls in this room. Drywall finish and paint to run continuous from floor to roof deck; no base will be installed along the bottom of walls – as indicated per the Room Finish Schedule. Joists and roof deck to remain un-painted – as indicated per the Room Finish Schedule.

37) SHEET 4.20-2D – SECOND FLOOR FINISH PLAN – AREA D

a) Storage D205A: Provide PNT-1 at all walls in this room. Drywall finish and paint to run continuous from floor to roof deck; no base will be installed along the bottom of walls – as indicated per the Room Finish Schedule. Joists and roof deck to remain un-painted – as indicated per the Room Finish Schedule.

i) Disregard Item 19.b. in Addendum #1 that omitted the painted wall in this space.

38) SHEET 4.30 – DOOR SCHEDULE

a) Door D103: Provide SCWOOD door with 90 minute fire-rating label.

i) Provide HM frame with 120 minute fire-rating label.

ii) The glass in the HM sidelite of frame Type 6 shall also be fire rated for 90 minutes.

(1) Reference 120 minute fire rated glass specifications listed elsewhere in this addendum.

b) Door D103: The Contractor shall provide a light gauge metal plate at the head of door D103 to close the gap that will be created between the two (2) steel lintels; plate to be welded in place. Exact details to be coordinated with Contractor at later date.

c) Door D103: Provide door hardware Group #9 in lieu of Group #1.

d) **CORRECTION**: Per Addendum No. 1 the head detail at doors D014A and D118 was incorrectly identified as 7/4.32. The correct head detail should actually be *revised* detail 26/4.32 (i.e. – 1/SD-7) as indicated on supplemental drawing SD-7 (attached to the end of Addendum No. 2).

e) **CORRECTION**: Per Addendum No. 1 the jamb detail at door D014A and D118 was incorrectly identified as 7/4.32. The correct jamb detail should actually be *revised* detail 26/4.32 (i.e. – 2/SD-7) as indicated on supplemental drawing SD-7 (attached to the end of Addendum No. 2).

39) SHEET 4.31 – DOOR SCHEDULE

a) Doors E100, E100-1, E200 and E200-1 are ***NOT*** required to be labeled as fire-rated door assemblies.

i) Disregard all references to 90 minute fire rating at doors E100, E100-1, E200 and E200-1.

ii) Disregard all references to fire-rated glazing in all Type D door leafs at door openings E100, E100-1, E200 and E200-1.

iii) Door hardware at doors E100, E100-1, E200 and E200-1 shall not be listed/labeled as fire-rated door hardware.

b) Omit HM frame Type 9; NOT USED.

40) SHEET 4.32 – DOOR DETAILS

a) Borrowed Lite Types:

i) Add borrowed lite type '4': Type 4 shall be a 7'-4" wide frame that is 4'-0" high with a 4" head. Provide 2 intermediate vertical mullions.

(1) Borrowed lite Type '4' to be used at Area E Conference rooms E116, E117, E216, E217.

(2) Reference floor plan sheets 4.10-1E and 4.10-2E; change borrowed lite Type 6 indicated on floor plan to Type 4.

ii) Borrowed lite Type '6': Change height from *4'-0"* to *7'-4"*. Provide a 4" sill at the floor and add a horizontal mullion to match borrowed lite frame Type '2' with top of horizontal mullion at 3'-2".

(1) Head detail shall be 10/4.33 and jamb detail shall be 11/4.33.

(a) Provide ¼" safety glazing where the nearest vertical edge of the glazing is within a 24-inch arc of either vertical edge of the door in a closed position.

iii) Borrowed lite Type '7': Change height from *6'-8"* to *7'-4"*. Sill should be placed at the floor. Provide a 4" sill at the floor and add a horizontal mullion to match borrowed lite frame Type '2' with top of horizontal mullion at 3'-2".

iv) Borrowed lite Type '8': Omit this borrowed lite. This borrowed lite type is not used.

v) Borrowed lite Type '9': Change overall height to 4'-0". Install top of head at 7'-4" AFF at 1st and 2nd Floors.

b) Borrowed Lite Types Schedule:

i) Add borrowed lite Type '4': Hollow metal frame, ¼" clear glass, head detail 5/4.33, jamb detail 6/4.33 and sill detail 7/4.33.

ii) Borrowed lite Type '6': Head detail to be 10/4.33 and jamb detail to be 11/4.33.

(1) Add Note: Provide ¼" safety glazing where the nearest vertical edge of the glazing is within a 24-inch arc of either vertical edge of the door in a closed position.

iii) Borrowed lite Type '8A': Change head detail to 15/4.31, change jamb detail to 16/4.31 and change sill detail to 17/4.31.

c) Detail 26/4.32 and 27/4.32: Change door frame head to 4" head. Locate door frame 7 5/8" from the face of the CMU to cover the joint between the concrete blocks and locate the north face of the door 7 5/8" from the face of the wall.

41) SHEET 4.55 – INTERIOR ELEVATIONS – AREA C

a) Elevation K/4.553 (C108 Hall): Provide (painted) gypsum board over door C116 as shown per detail 1 /4.33

42) SHEET 4.56 – INTERIOR ELEVATIONS – AREA C

a) CLARIFICATION: All wall-mounted, fabric-wrapped acoustical panels installed in Small Theater C101 shall be random absorption diffusion (RAD) type wall panels, as specified per Section 098433.

43) SHEET 4.57 – INTERIOR ELEVATIONS – AREA D

a) Elevation C/4.57 – D137 Media Center – West: Install borrowed lite frame Type 9 at 7'-4" AFF at 1st and 2nd Floors.

44) SHEET 5.20 – EXTERIOR FRAME ELEVATIONS

a) CLARIFICATION: All exterior glass shall be 1" clear, low-e insulated glazing units unless specifically identified otherwise on per frame elevations or the Door Schedule.

45) SHEET 5.21 – EXTERIOR FRAME ELEVATIONS

a) CLARIFICATION: All exterior glass shall be 1" clear, low-e insulated glazing units unless specifically identified otherwise on per frame elevations or the Door Schedule.

46) SHEET 5.22 – WINDOW AND STOREFRONT DETAILS

a) Window Type Schedule: The operable sashes at all Type B, B1, B2, B3 & B4 windows shall be 16 inches tall; change the ~~1'-3"~~ dimension to **1'-4"**.

b) Window Type Schedule: The intermediate horizontal mullion(s) at window Types A, C, C1, C2, C3, C4, F & G shall be changed to match the height of the operable sashes at all Type B, B1, B2, B3 & B4 windows; see above. Change the ~~1'-3"~~ dimension to **1'-4"**.

i) The intermediate horizontal mullion(s) at window Type E shall be changed to match the height of the operable sashes at all Type B, B1, B2, B3 & B4 windows; see above. Change the ~~1'-1"~~ dimension to **1'-4"**.

47) SHEET 5.36 – BUILDING SECTIONS AREA E

a) B/5.36 – SECTION AREA E – see attached new drawing sheet 5.57 for details at grids E1, E2 and E3 for large scale details at base bid and add alternate #1.

b) C/5.36 – Conference Rooms E116, E117 – extend masonry walls up to bottom of steel beam/floor deck above.

48) SHEET 5.40 – ENLARGED ELEVATOR AND STAIR SECTIONS

a) Omit the full guardrail assembly shown along the west side of the steel pan stairs leading up to Storage A201; refence stair section 2 / 5.40.

i) Provide a wall-mounted steel pipe handrail on each side of this stair.

(1) The steel pipe handrail on the west side of the stair shall be fabricated in a manner such that the north end of the railing continues/extends the full length of the stair run (including required horizontal extension).

(a) The handrail assembly shall include a vertical post near the bottom of the stair to support the northernmost end of the handrail.

(b) The vertical post shall be welded to the top of the stair stringer. (typ)

b) The triangle-shaped gypsum board in-fill area shown along the west side of the stair serving Storage A201 shall be supported from the side of the stair stringer. (typ) Reference section 2/5.40.

c) The triangle-shaped gypsum board in-fill area shown along the north side of the stair serving Mechanical B200 shall be supported from the side of the stair stringer. (typ) Reference section 3/5.40.

d) The triangle-shaped gypsum board in-fill area shown along the west side of the stair serving Mechanical C200 shall be supported from the side of the stair stringer. (typ) Reference section 4/5.40.

e) CLARIFICATION: Provide a wall-mounted steel pipe handrail along the east side of the stair serving Storage C201.

f) Omit the full guardrail assemblies shown along the north and west sides of the steel pan stairs leading up to Storage C202; refence stair sections 9 & 10 / 5.40.

   i) Provide a (continuous) wall-mounted steel pipe handrail on each side of this stair.

   ii) Provide steel stud framing and gypsum board sheathing along the west side of the upper stair run to in-fill in the triangle-shaped opening that occurs adjacent the stair. Support gypsum board assembly from the side of the stair stringer. (typ)

49) SHEET 5.41 – ENLARGED STAIR PLANS AND SECTIONS

a) CLARIFICATION: A 42-inch high steel guardrail with perforated metal in-fill shall be installed continuous around the north and east sides of the 2nd Floor stair opening at Stair D207A.

   i) Refence 2 / 5.42 for guardrail details.

b) CLARIFICATION: A 42-inch high steel guardrail with perforated metal in-fill shall be installed continuous around the north and east sides of the 2nd Floor stair opening at Stair D200.

   i) Refence 2 / 5.42 for guardrail details.

c) CLARIFICATION: The guardrail assembly along the south side of the intermediate landing of Stair E219 shall be fabricated with perforated metal in-fill; reference enlarged stair plans 2 & 3 / 5.41 and typical guardrail detail 2 / 5.42. Weld guardrail to top of tube steel framing at landing. (typ)

d) CLARIFICATION: The guardrail assembly along the west side of the intermediate landing of Stair D200 shall be fabricated with perforated metal in-fill; reference enlarged stair plans 6 & 7 / 5.41 and guardrail detail 2 / 5.42. Weld guardrail to top of tube steel framing at landing. (typ)

50) SHEET 5.42 – STAIR AND RAILING DETAILS

a) CLARIFICATION: A 4-inch high cast-in-place concrete landing shall be provided at the top of all mechanical penthouse stairs as indicated per the floor plans.

   i) The stair supplier shall make provisions for these landings when detailing / fabricating his steel pan stair assemblies, even though the 4-inch high cast-in-place concrete landings are not specifically identified in section detail 5 / 5.42.

b) The bottom of steel stair stringers shall be terminated vertically at the bottom of the stair run; omit the horizontal stringer extension identified as *mounting location for guardrail post*.

   i) Lower guardrail posts shall be mounted to the top of the sloped stringers. (typ)

ii) Handrail extensions shall be designed to return back horizontally to the lowest guardrail post; bottom of horizontal return shall be located not more than 27" A.F.F.

51) SHEET 5.57 – SECTION DETAILS

a) See attached ***NEW*** architectural drawing Sheet 5.57 with new enlarged details per below:

i) Details 1, 2 & 3/5.57 – refer to building section J/5.34, grid EA for location of these details.

ii) Details 4, 5/5.57 – refer to building section B/5.36 for location.

iii) Reference new exterior building elevation 7 / 5.57 which now shows the west exterior elevation of Area E – per the Base Bid.

52) SHEET 6.10-1A – FIRST FLOOR PLAN REFLECTED CEILING PLAN – AREA A

a) CLARIFICATION: The head detail / section cut referenced over doors A104 & A104-1 is incorrectly shown as 3/6.20 on Sheet 6.10-1A.

i) Change detail reference over doors A104 & A104-1 to **4/4.33**, as indicated per the Door Schedule on Sheet 4.30.

53) SHEET 6.10-1A – FIRST FLOOR PLAN REFLECTED CEILING PLAN – AREA A

a) CLARIFICATION: The head detail / section cut referenced over doors A104 & A104-1 is

54) SHEET 6.10-2B – FIRST FLOOR REFLECTED CEILING PLAN – AREA B

a) Reference *revised* architectural drawing Sheet 6.10-2B, *revision* dated 12-10-21, attached to the end of this addendum for modifications to the acoustical ceilings in Commons B100, including additional suspended baffles, additional light fixtures and revisions to HVAC ductwork / diffusers.

55) SUPPLEMENTAL DRAWINGS

MECHANICAL ITEMS:

1) SHEET 8.10 – LEGEND & DETAILS

a) AHU-9 Heating/Cooling Coil Piping Diagram:

i) Substitute "AHU-2 & AHU-9 Heating/Cooling Diagram Coil Piping Diagram" title for the AHU-9 title listed previously. Refer to revised drawing sheet 8.10, ADDM M2, dated 12/10/21.

ii) Substitute a calibrated balance valve in the by-pass piping for the balance valve previously shown. Refer to revised drawing sheet 8.10, ADDM M2, dated 12/10/21.

b) Add AHU-11 Heating Coil Piping Diagram. Refer to revised drawing Sheet 8.10, ADDM M2, dated 12/10/21.

2) SHEET 8.11 – DETAILS

a) Water Heating Piping Detail:

i) Add piping sizes & thermal expansion tank size. Refer to revised drawing Sheet 8.11, ADDM M2, dated 12/10/21.

3) SHEET 8.12 – SCHEDULES

a) CONDENSING UNIT SCHEDULE: Add note 3 to provide 5K SCCR rating.

b) DUST COLLECTOR SCHEDULE: Add note 5 to provide 5K SCCR rating.

c) VAV TERMINAL SCHEDULE: Add VAV-A103, VAV-A104 and VAV-A112 to the schedule.

d) AIR HANDLING UNIT SCHEDULE: Revise AHU-1.

e) FAN SCHEDULE: Revise EF-B120.

4) SHEET 8.13 – SCHEDULES

a) BOILER SCHEDULE: Add note 6 to provide 5K SCCR rating.

b) COOLING TOWER SCHEDULE: Add to note 2 to provide 5K SCCR rating.

c) REGISTER, GRILLE & DIFFUSER SCHEDULE: Revise G6 to have a neck size of 48/24.

d) PUMP SCHEDULE: Add AHU-11 heating coil pump P-23. Refer to revised drawing sheet 8.13, ADDM M2, dated 12/10/21.

5) SHEET 8.20-1A – FIRST FLOOR PLAN – AREA A – PLUMBING & HEATING

a) CORRIDOR A103: Add VAV-A103 & associated piping. Refer to revised drawing sheet 8.20-1A, ADDM M2, dated 12/10/21.

6) SHEET 8.20-1B – FIRST FLOOR PLAN – PLUMBING & HEATING

a) VESTIBULE B103: Add 3" roof drain & associated piping. Refer to revised drawing sheet 8.20-1B, ADDM M2, dated 12/10/21.

b) VESTIBULE B103: Modify piping to FP-B101. See sheet 8.40-1B, ADDM M2, dated 12/10/21.

7) SHEET 8.20-1BA – ENLARGED BOILER ROOM PLAN – AREA B – PLUMBING & HEATING

a) STOR./REC./MECH./ELEC. ROOM B130: Add 1 ½" drain with shutoff valve on cooling tower piping. Refer to revised drawing sheet 8.20-1BA, ADDM M2, dated 12/10/21.

8) SHEET 8.20- 2A – SECOND FLOOR PLAN – AREA A – PLUMBING & HEATING

a) MECHANICAL ROOM A200 & STORAGE ROOM A201: Add VAV-A104 & VAV-A112 & associated piping. Refer to revised drawing sheet 8.20-2A, ADDM M2, dated 12/10/21.

9) SHEET 8.20-2B – ENLARGED MECHANICAL ROOM – AREA B – PLUMBING & HEATING

a) MECHANICAL B200: Add inline pump P-23 to serve AHU-11 heating coil. Refer to revised drawing sheet 8.20-2B, ADDM M2, dated 12/10/21.

10) SHEET 8.40-1A – FIRST FLOOR PLAN – AREA A – VENTILATION & A/C

a) Revise supply and return duct drops. Add VAV-A104, thermostat for VAV-A112 in Training A112 and thermostat for VAV-A103. Refer to revised drawing sheet 8.40-1A, ADDM M2, dated 12/10/21.

11) SHEET 8.40-1B – FIRST FLOOR PLAN – AREA B – VENTILATION & A/C

a) Revise note 11 to add ***PROVIDE INSULATED ROOF CURB FOR FUTURE FAN LOCATION***. Refer to revised drawing sheet 8.40-1B, ADDM M2, dated 12/10/21.

b) Revise location of FP-B101. Refer to revised drawing sheet 8.40-1B, ADDM M2, dated 12/10/21.

12) SHEET 8.40-1E – FIRST FLOOR PLAN – AREA E – VENTILATION & A/C

a) Revise 12" ø duct to FP-E118. Add Note 7: ***EXPOSED SPIRAL DUCT THRU CORRIDOR SHALL BE DOUBLE WALL CONSTRUCTION***. Provide flared out opening at end of main return duct. Refer to revised drawing sheet 8.40-1E, ADDM M2, dated 12/10/21.

13) SHEET 8.40-2A – SECOND FLOOR PLAN – AREA A – VENTILATION & A/C

a) Revise supply and return duct drops. Add VAV-0a104 and VAV-A112. Refer to revised drawing sheet 8.40-2A, ADDM M2, dated 12/10/21.

14) SHEET 8.40-2C – SECOND FLOOR PLAN – AREA A – VENTILATION & A/C

a) Revise duct sizing and add (4) D2 diffusers. Refer to revised drawing sheet 8.40-2C, ADDM M2, dated 12/10/21.

15) SHEET 8.40-2E – FIRST FLOOR PLAN – AREA E – VENTILATION & A/C

a) Add Note 11: ***EXPOSED SPIRAL DUCT THRU CORRIDOR SHALL BE DOUBLE WALL CONSTRUCTION***. Revise locations of EF-220, EF-223 and EF-225. Refer to revised drawing sheet 8.40-2E, ADDM M2, dated 12/10/21.

b) Omit the fire damper shown at louver LVR-7 at the west side of Mechanical C200; not required.

ELECTRICAL ITEMS:

1) SHEET 9.23-1B – FIRST FLOOR PLAN – AREA B – LIGHTING

a) Room B100: Provide 4 each 3-way switches (a,b,c,d) at the southeast and southwest entries to the room.

2) SHEET 9.24-1B – FIRST FLOOR PLAN – AREA B – POWER & SIGNAL

a) Room B103 North Canopy: Provide a weatherproof duplex receptacle above the canopy and provide Raychem FG1-12P heating cable in roof drain pipe. Connect to circuit LB2-40, the circuit breaker shall be GFI type for equipment protection.

3) SHEET 9.26-1C – FIRST FLOOR PLAN – AREA C – POWER & SIGNAL

a) Room C100: See mechanical addendum for revised location of FP-B101.

4) SHEET 9.34-2B – SECOND FLOOR PLAN – AREA B – LIGHTING

a) Reference revised electrical drawing 9.34-2B, revision dated 12-10-21, attached to the end of this addendum for lighting modifications in Commons B200.

5) SHEET 9.35-2B – SECOND FLOOR PLAN – AREA B – POWER & SIGNAL

a) Room B200: Provide a manual motor starter toggle disconnect switch and connection to pump P-23 (120V, 1/12HP) located by AHU-11 (see mechanical addendum for location). Connect to circuit LB1-34.

6) SHEET 9.36-2C – SECOND FLOOR PLAN – AREA C – LIGHTING

a) Reference revised electrical drawing 9.36-2C, revision dated 12-10-21, attached to the end of this addendum for lighting modifications in Commons B200.

7) SHEET 9.37-2C – SECOND FLOOR PLAN – AREA C – POWER & SIGNAL

a) Delete the exterior receptacle south of the southwest door.

8) SHEET 9.39-2D – SECOND FLOOR PLAN – AREA D – POWER & SIGNAL

a) Room D200: Delete the duplex receptacle on the north wall and the associated circuit going to the west.

b) Room D207A: Delete the duplex receptacle on the south wall. Move the home-run to the receptacle in the hallway to the southeast.

9) SHEET 9.43-3E – PENTHOUSE FLOOR PLAN – AREA E – POWER & SIGNAL

a) Room E300: Delete the exterior duplex receptacle by the northwest door.

b) Roof: See mechanical addendum for revised locations of EF-E220, EF-E223, and EF-E225

GENERAL APPROVALS:

The following material or equipment furnished by the manufacturers listed, may be substituted as equivalent providing that each item, material, and piece of equipment conforms to the design and requirement of the specifications.

SECTION	ITEM	MANUFACTURER
033000	Underslab Vapor Retarders	W.R. Meadows; *Perminator HP 15*
034500	Precast Architectural Concrete	Collins Precast
		Taracon Precast
042000	Thru-Wall Masonry Flashing	York Flashings; *York 304 SS*
087100	Power-Assist Door Closers	Stanley Access Tech, LLC; *Magic Force Heavy Duty Swing Door Operator*
105113	Metal Lockers	Lockers MFG; *Heavy-Duty Metal Lockers*
116600	Athletic Equipment (Goal Post Assemblies)	Jaypro Sports; *FBGP-920*
220400	Thermal Expansion Absorber	Armstrong
220600	Infloor Heating System	Infloor
220600	Condenser Water Filtration	Proflux

230800	Relief Hoods	ACME/Twin City Fans
230800	Ductless Split System	Samsung
230800	Dust Collector	AQC, Onida Air Systems
230800	Fabric Duct System	Fabric Air
265110 / 265210	Interior and Exterior Lighting	
	Type A Series	Elite
	Type C, CE	Lithonia, LSI
	Type D Series	Delviro, Lithonia
	Type E Series	Emergency, LSI
	Type F, FE, FG	Delviro, Lithonia, Metalux
	Type F1, F1E, F1G	Delviro, Healthcare, Metalux
	Type H Series	Lithonia, Vantage
	Type J#, J#E, K#, K#E	Finelite, Peerless
	Type L#	Axis, Coronet, Finelite
	Type M Series	Lithonia, LSI
	Type N	Acclaim, NVF, TPR
	Type R Series	Lithonia, Portfolio, Vantage
	Type S	Lithonia, Portfolio, Vantage
	Type T	Lithonia, Portfolio, Vantage
	Type TA	FC, Intrigue, Lumux
	Type VF, VFE	Fail-Safe, L.C. Doane, Lithonia
	Type Y Series	Lithonia, LSI, McGraw-Edison
	Type Z	Lithonia, LSI, Lumark
	Type AA Series	Lithonia, LSI, Lumark

END OF ADDENDUM No. 2

REVISED FORM OF PROPOSAL

PROJECT: **Harrisburg High School – 9th Grade Academy**
South Cliff Avenue and East 85th Street
Sioux Falls, South Dakota

TO: **Harrisburg School District #41-2**
200 Willow Street
Harrisburg, South Dakota 57032

DATE: _____

The undersigned, having familiarized (itself) (himself) with the local conditions affecting the cost of the Work at the place where the Work is to be done and with the Plans and Specifications and other Contract Documents, and having examined the location of the proposed Work, and having received Addenda Nos. _____, _____, _____, _____, dated __/__/__, __/__/__, __/__/__, __/__/__, and having included their provisions in this proposal, hereby proposes and agrees to perform any and all labor and to provide all materials, tools, and equipment necessary to complete in a workmanlike manner all the work for the **Harrisburg High School – 9th Grade Academy** project, located at the corner of South Cliff Avenue and East 85th Street, in Sioux Falls, SD, all in strict conformance with the plans and specifications prepared by Architecture Incorporated, dated November 19, 2021:

For the following Base Bid:

_____

_____ ($)

Alternate No. 1: Add Four (4) Classrooms on the West Side of Area E

(**ADD**) ($)

Alternate No. 2: Add Running Track & Track Drainage

(**ADD**) ($)

Alternate No. 3: Add Access Road on North Side of Property

(**ADD**) ($)

Alternate No. 4: Provide LVT in lieu of Ceramic Floor Tile in Commons B100

(**DEDUCT**) ($)

Alternate No. 5A: Tandus Flooring Package

(**ADD**) ($)

Alternate No. 5B: Alternative Manufacturer Flooring Package

(**ADD**) ($)

Alternate No. 6A: Magnetic Bearing Cooling Tower Package

(**ADD**) ($)

Alternate No. 6B: Variable Speed Screw Cooling Tower Package

(**ADD**) ($)

Alternate No. 6C: Tri-rotor Cooling Tower Package

(**ADD**) ($)

Alternate No. 7A: Siemens Auto Temp. Control / Building Automation System

(**ADD**) ($)

Alternate No. 7B: Schneider Electric Auto Temp. Control / Building Automation System

(**ADD**) ($)

Alternate No. 7C: Distech Controls Auto Temp. Control / Building Automation System

(**ADD**) ($)

The undersigned agrees that his bid may not be withdrawn for a period of 30 days from the time set for opening of bids and that if notified of acceptance of his Proposal within that stated time, or at any time thereafter before the bid is withdrawn, he will within ten (10) days of such notification, execute and deliver an Owner - Contractor Agreement herein specified to be AIA Document A101 and to furnish and deliver the Performance Bond and the Labor and Material Payment Bond, each in an amount equal to 100 percent of the Contract Sum.

The Contractor shall commence work under this Contract after the date of receipt by him of Notice of Award on or near December 20, 2021 and shall substantially complete the project by August 12, 2023. The time stated for completion shall include allowances for inspections, completion of items requiring further attention and final clean-up of premises.

BID SECURITY:

The undersigned has attached to the Proposal the following:

1. Bid Security in the form of _____ and in the amount of $_____ as outlined in the Invitation to Bid.

In submitting this bid, the undersigned understands that the right is reserved by the Owner to reject any and all bids and to waive all informalities.

BIDDER: _____

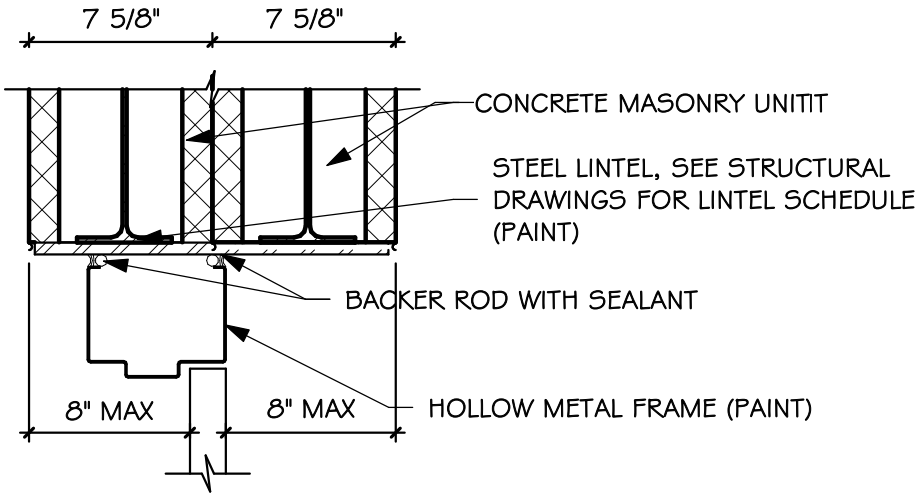
BY: _____

TITLE: _____

BUSINESS ADDRESS: _____

STATE OF INCORPORATION: _____
(SEAL)

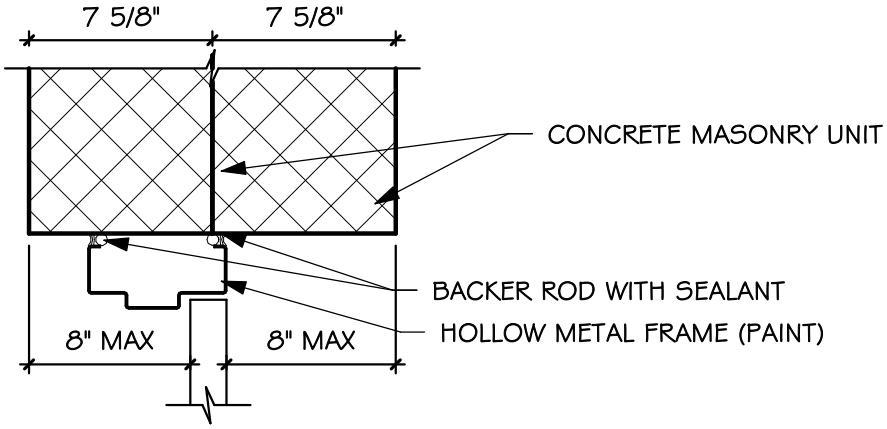
If Bid is by a Corporation:



1 / SD7

DETAIL 26/4.32

SCALE: 1 1/2" = 1'-0"



2 / SD7

DETAIL 27/4.32

SCALE: 1 1/2" = 1'-0"

project HARRISBURG HS - 9TH GRADE ACADEMY

number 1002.2904.20 drawn ZJG checked SRJ

date 12-10-2021 revision

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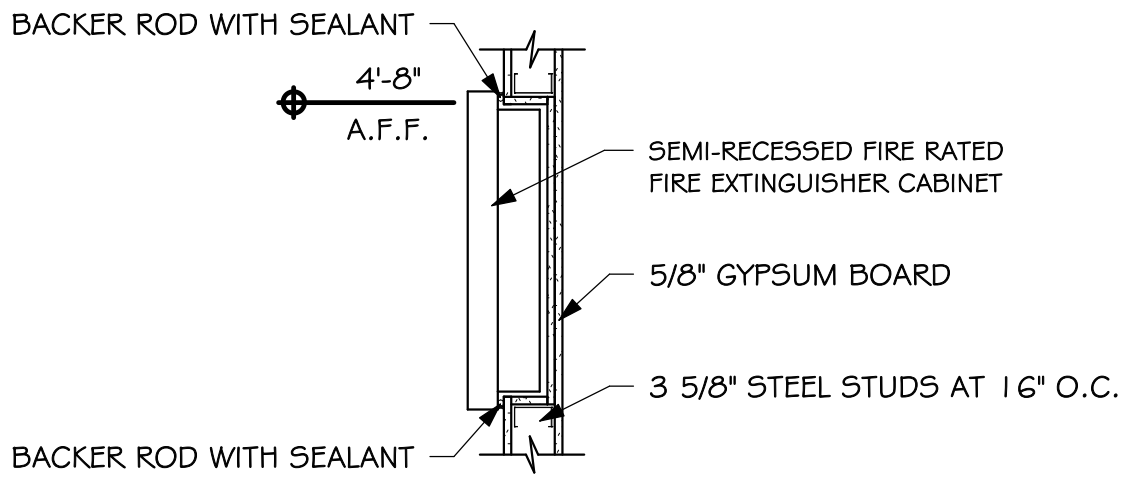
415 South Main Ave., P.O. Box 2140 Sioux Falls, SD (605) 339-1711

DRAWING

SD7



1 / 1.10 FEC - SEMI RECESSED

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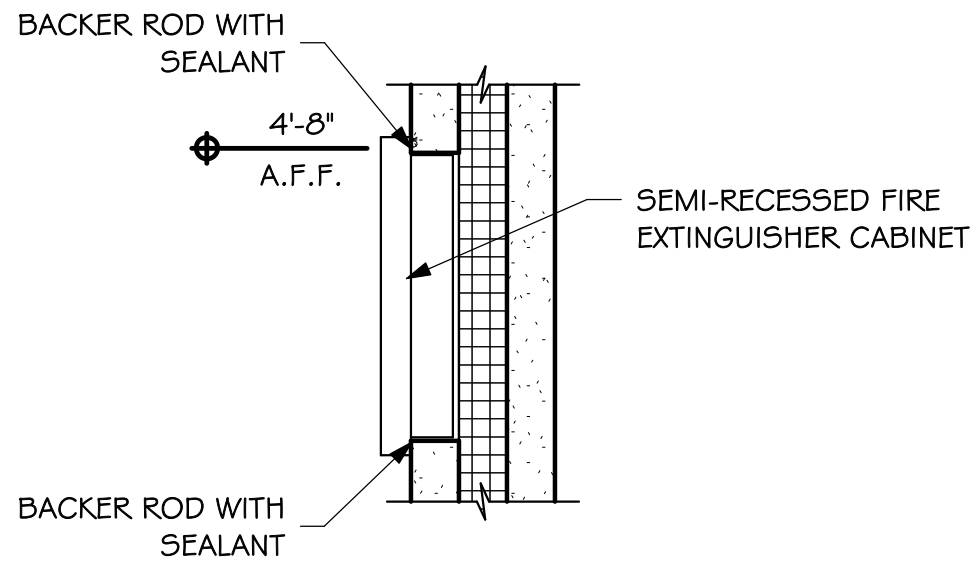

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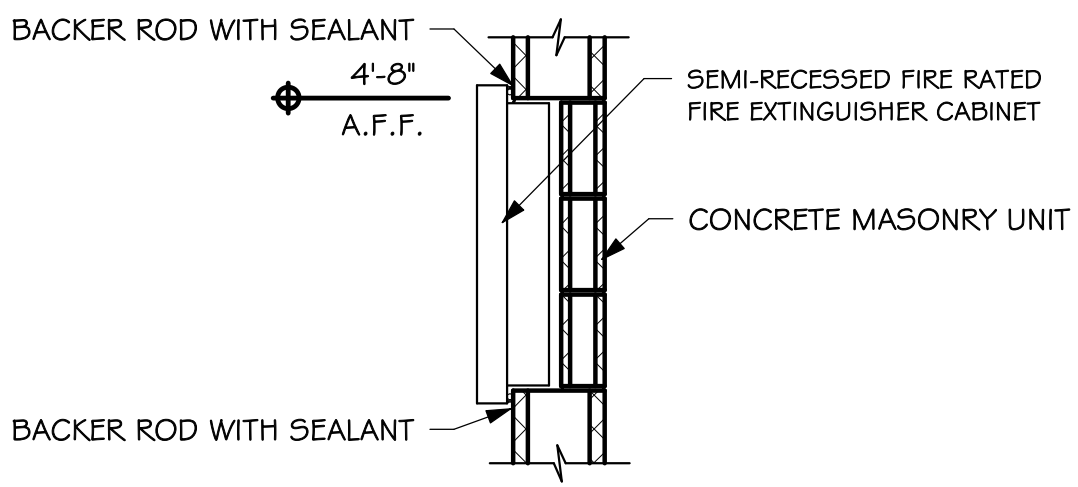

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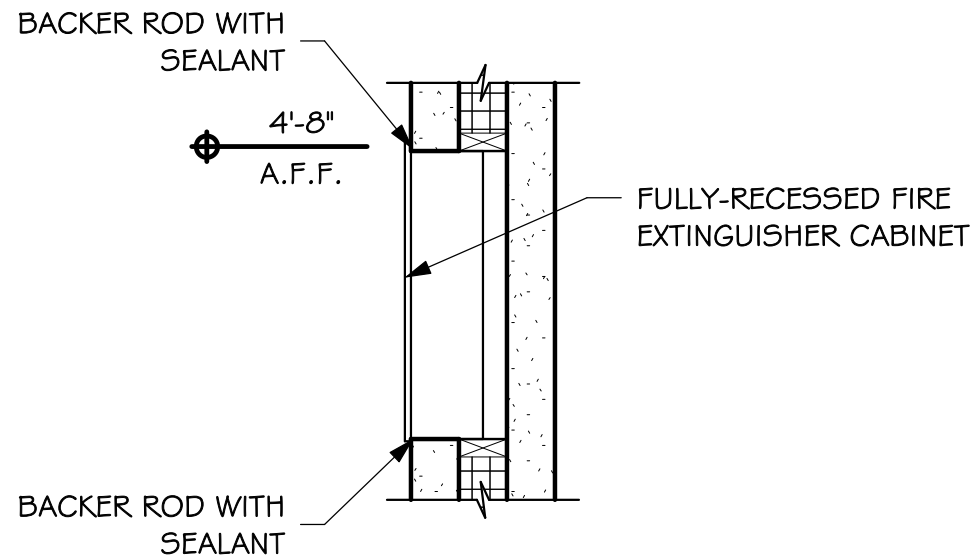

4 / 1.10 FEC - FULLY RECESSED (PRECAST)

SCALE: 3/4" = 1'-0"

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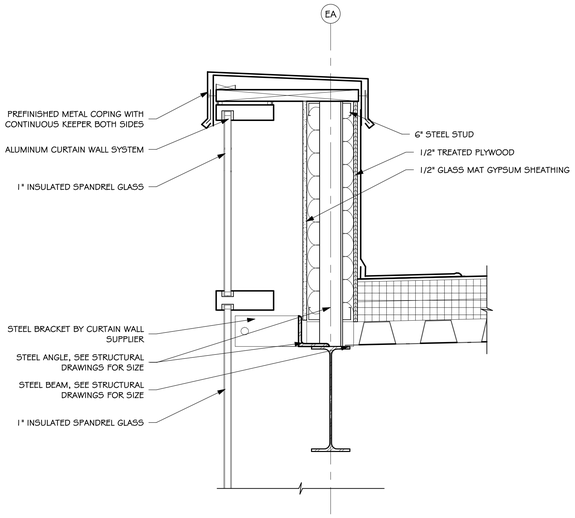
revision

DRAWING SD8



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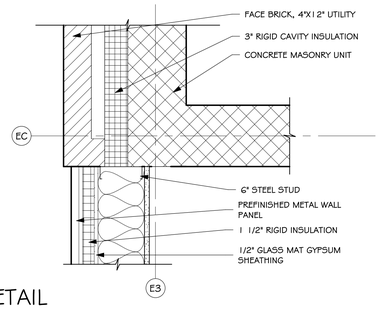
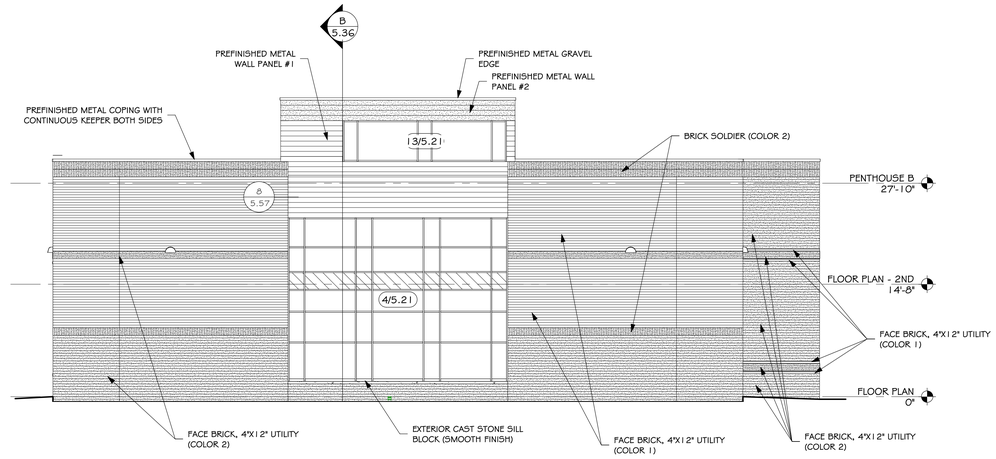
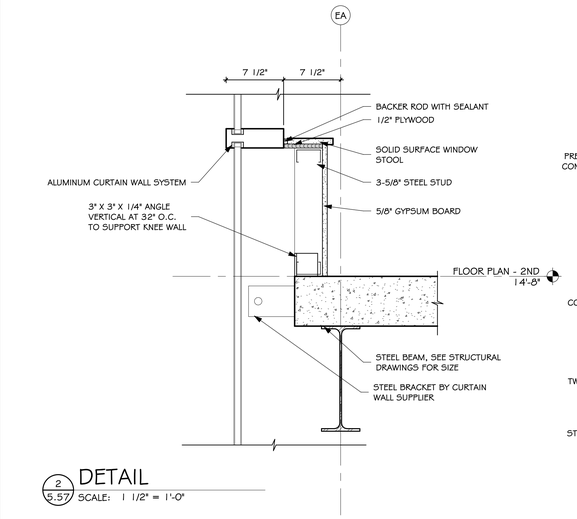
SCALE: 1 1/2" = 1'-0"



8 5.57 DETAIL
SCALE: 1 1/2" = 1'-0"



7 5.57 WEST ELEVATION - AREA E (BASE BID)
SCALE: 1/8" = 1'-0"



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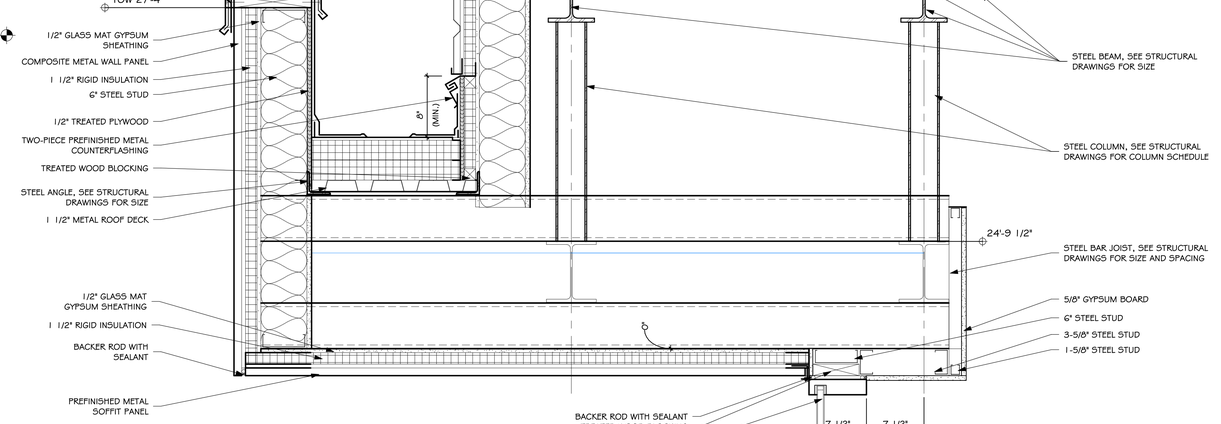
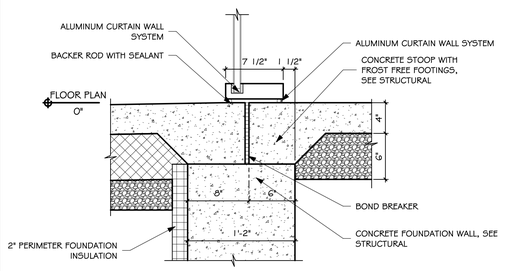
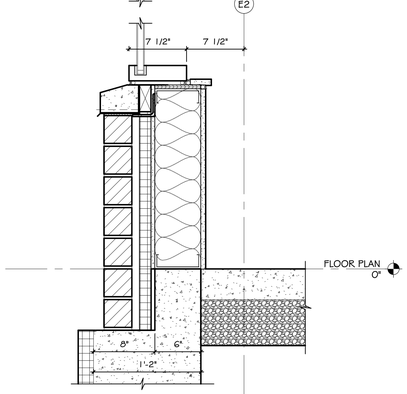


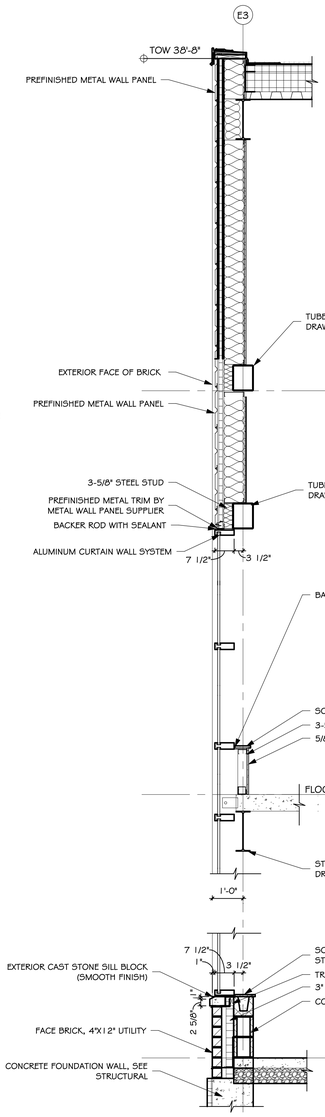
4 5.57 DETAIL - ADD ALT.
SCALE: 1 1/2" = 1'-0"



3 5.57 CURTAIN WALL SILL
SCALE: 1 1/2" = 1'-0"



5 5.57 CURTAIN WALL SILL - ADD ALT.
SCALE: 1 1/2" = 1'-0"



6 5.57 END WALL SECTION - BASE BID
SCALE: 1/2" = 1'-0"

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State of South Dakota
REG. NO. 3734
STEVEN J. JASTRAM
11-19-2021
Registered Architect

project
HARRISBURG HS - 9TH GRADE ACADEMY

sheet contents
SECTION DETAILS - Additional

number 1002.2904.20
date NOVEMBER 19, 2021
revision
drawn Author checked Checker

NO.	DATE	DESCRIPTION

5.57

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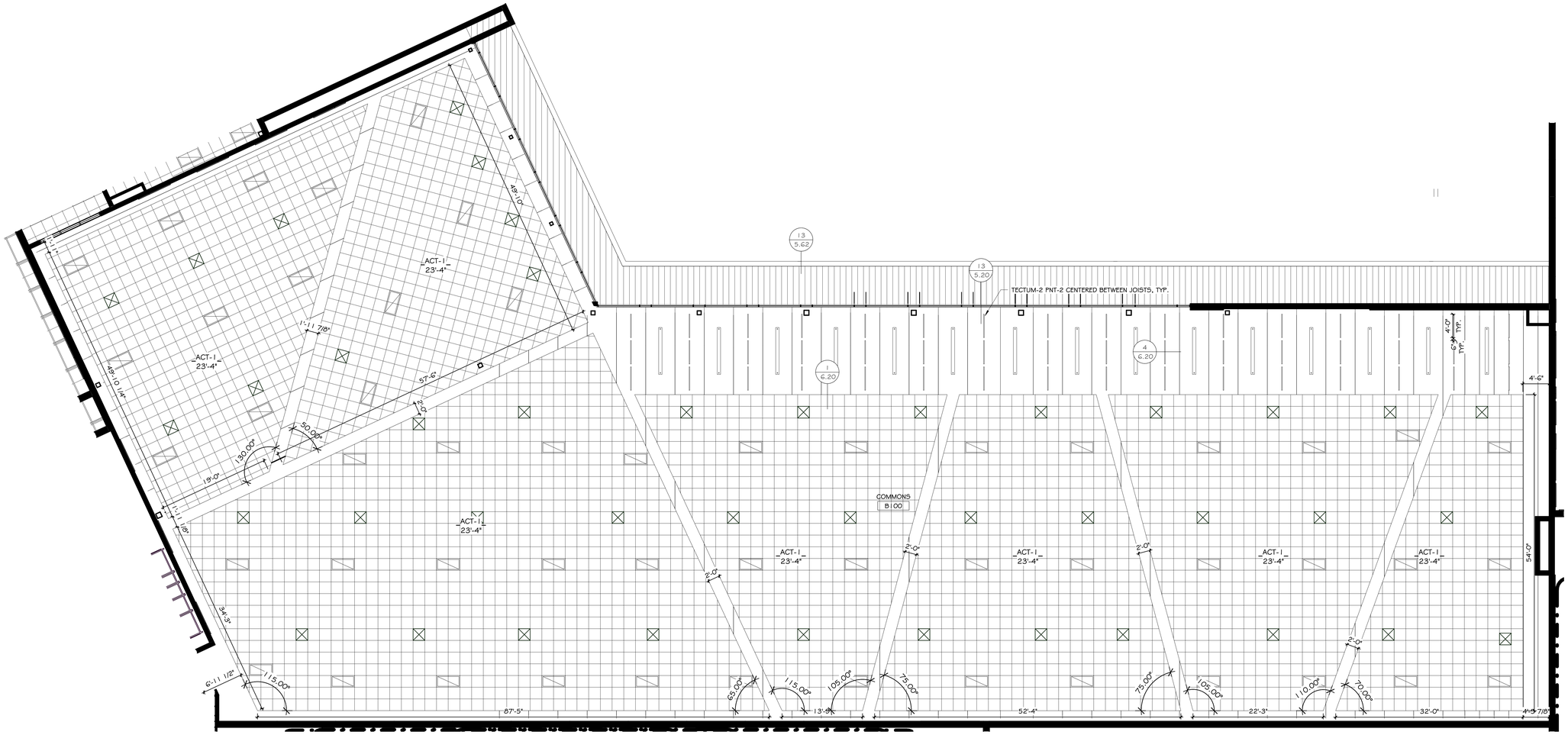


COMMONS HIGH REFLECTED CEILING PLAN

SCALE: 1/8" = 1'-0"

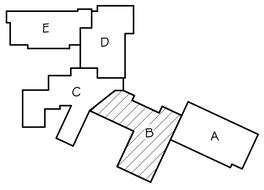
N

GENERAL NOTES - REFLECTED CEILING PLAN

A. GENERAL CONTRACTOR SHALL VERIFY DIMENSIONS AND CONDITIONS AT THE JOB SITE AND NOTIFY ARCHITECT OF DISCREPANCIES.
B. ALL BULKHEAD AND SOFFITS SHALL EXTEND 2 INCHES BELOW ADJACENT CEILING HEIGHT UNLESS NOTED OTHERWISE.

REFLECTED CEILING PLAN LEGEND

- RECESSED LIGHT
- SURFACE LIGHT
- SURFACE LIGHT
- RECESSED LIGHT
- SUPPLY GRILLE
- RETURN/ EXHAUST GRILLE
- RADIANT HEATING PANEL
- WALL EXTENDED 4 SEALED TO STRUCTURE ABOVE TO PREVENT AIR/SOUND TRANSFER FROM ROOM TO ROOM
- WALL TO ABOVE CEILING
- SPEAKER



KEYPLAN

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State of South Dakota
REG. NO. 3734
STEVEN R. JASTRAM
11-19-2021
Registered Architect

project: HARRISBURG HS - 9TH GRADE ACADEMY

title: FIRST FLOOR REFLECTED CEILING PLAN - COMMONS

number 1002.2904.20
date NOVEMBER 19, 2021
revision
drawn BJO checked SRJ

NO.	DATE	DESCRIPTION
	12-10-21	ref: Addendum #2

6.10-2B

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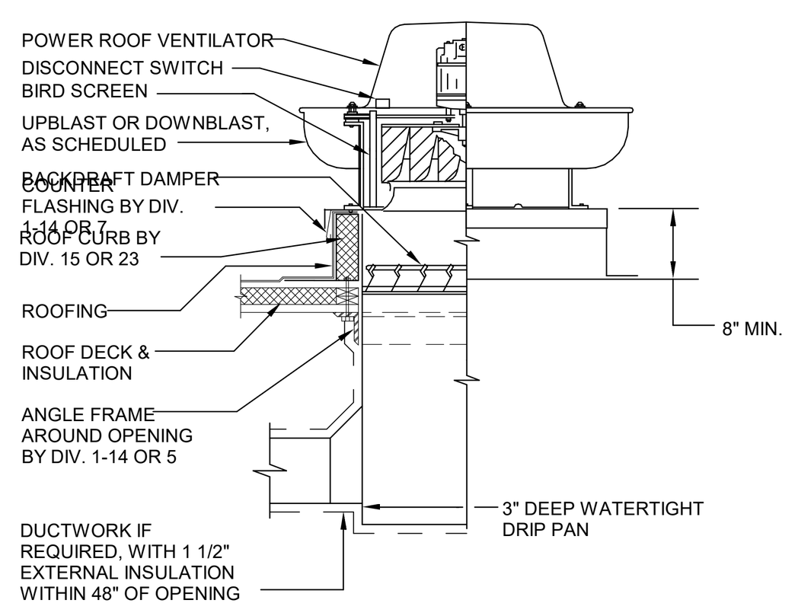
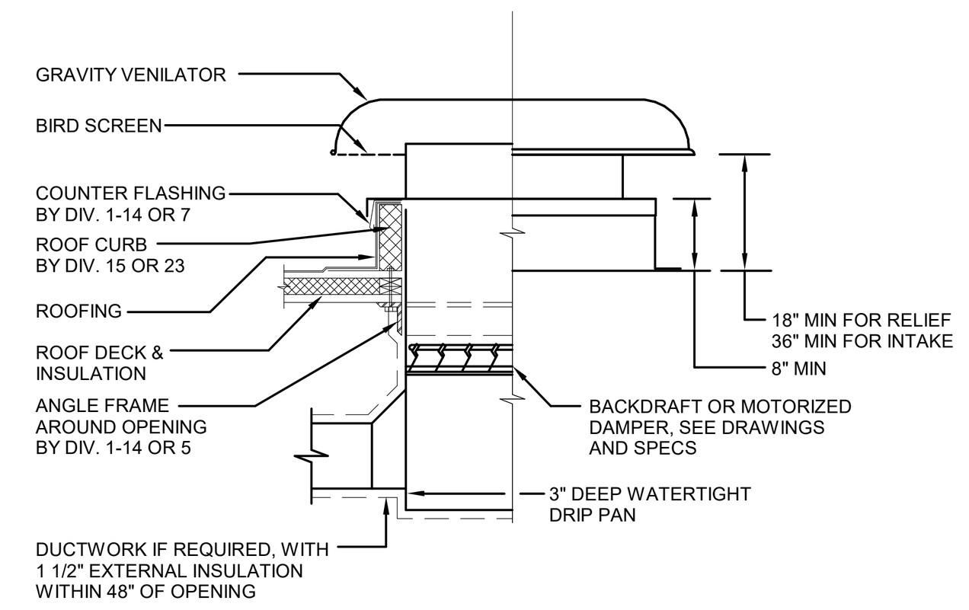


NOTE:
KITCHEN HOOD EXHAUST FAN SHALL BE UPBLAST TYPE, SHALL HAVE A HINGED CURB, GREASE CUP, AND SHALL HAVE NO BACKDRAFT DAMPER. CURB SHALL TERMINATE AT LEAST 18" ABOVE THE FINISHED ROOF SURFACE. FAN OUTLET SHALL BE A MINIMUM OF 40" ABOVE THE FINISHED ROOF SURFACE. DIV. 15 OR 23 SHALL FURNISH AND INSTALL E/A DUCTWORK AND MAKE FINAL CONNECTIONS TO HOOD & EXHAUST FAN. DUCTWORK SHALL BE 16 GA. WELDED BLACK STEEL OR 18 GA. WELDED STAINLESS STEEL WHERE EXPOSED. SEE KITCHEN DRAWINGS. THE DUCT SHALL BE WRAPPED WITH FIRE RATED WRAP FROM THE HOOD TO THE FAN INLET, INCLUDING INSIDE THE CURB. FOLLOW FIRE WRAP MANUFACTURER'S INSTALLATION INSTRUCTIONS. CURB SHALL BE SIZED TO ACCOMODATE FIRE WRAP AND SHALL BE NON-VENTED.

POWER ROOF VENTILATOR DETAIL

NO SCALE



GRAVITY VENTILATOR DETAIL

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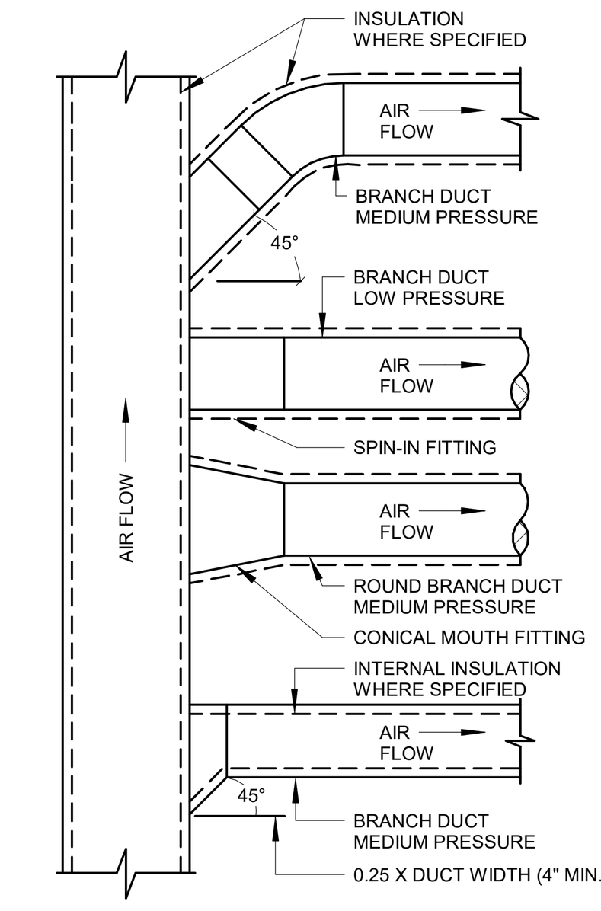
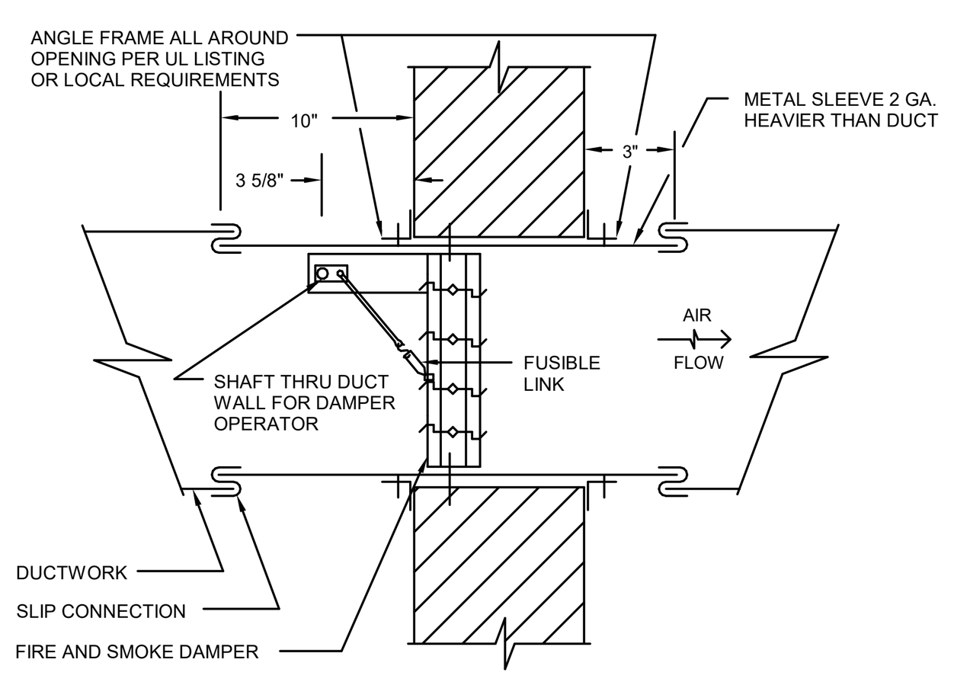


DUCT TAKE-OFF & CONNECTION

NO SCALE

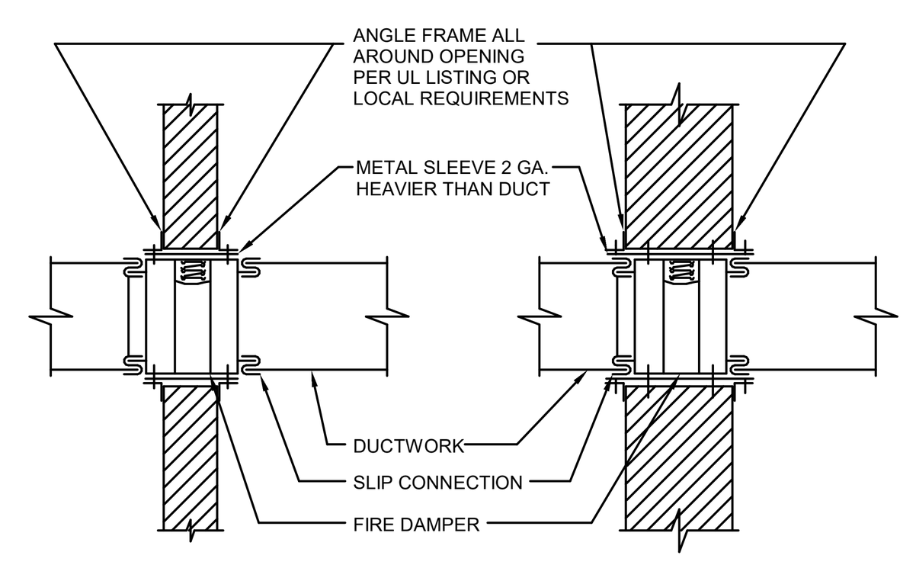


FIRE & SMOKE DAMPER DETAIL

NO SCALE

NOTE:

1. WALL MOUNTING ANGLES AND SLEEVES SHALL BE SECURED TO DAMPER FRAME BY WELDING AT 6" O.C. OR 1/4" BOLTS AND NUTS AT 8" O.C.
2. FUSIBLE LINK SHALL BE ACCESSIBLE THRU ACCESS DOOR.
3. THIS DETAIL REPRESENTS TYPICAL INSTALLATION REQUIREMENTS. INSTALL DAMPERS IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS FURNISHED WITH EACH RESPECTIVE DAMPER.
4. FOR INSTALLATION IN SHEET ROCK/STUC WALLS PROVIDE STUD WALL FRAMING AND SHEET ROCK AS REQUIRED BY THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.



FIRE DAMPER INSTALLATION

NO SCALE

NOTES:

1. WALL MOUNTING ANGLES AND SLEEVES SHALL BE SECURED TO DAMPER FRAME BY WELDING AT 6" O.C. OR 1/4" BOLTS AND NUTS AT 8" O.C.
2. FUSIBLE LINK SHALL BE ACCESSIBLE THRU ACCESS DOOR.
3. THIS DETAIL REPRESENTS TYPICAL INSTALLATION REQUIREMENTS. INSTALL DAMPERS IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS FURNISHED WITH EACH RESPECTIVE DAMPER.
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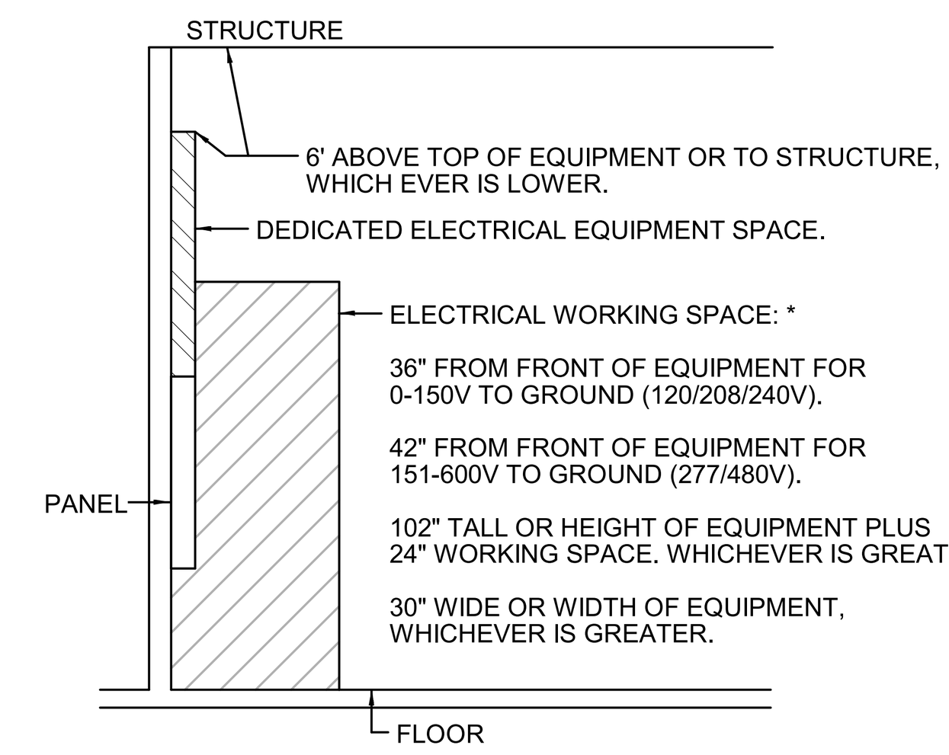
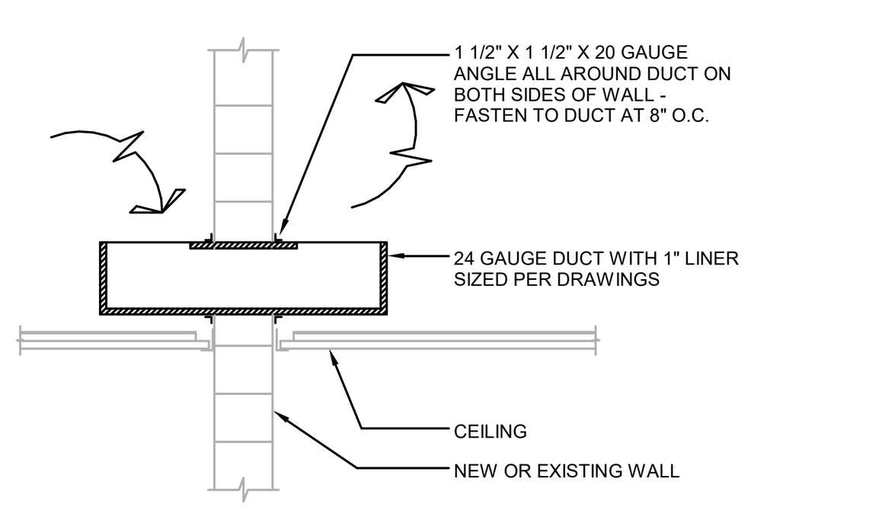


ELECTRICAL WORKING SPACE

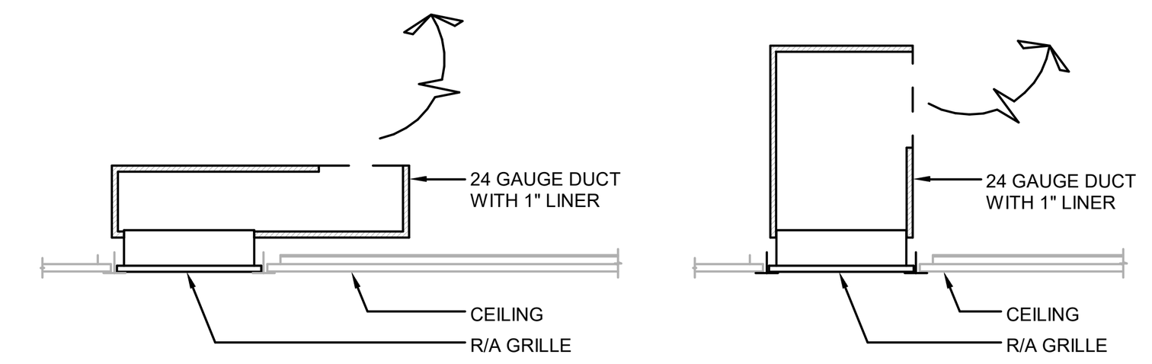
NO SCALE

* VERIFY WITH LOCAL CODE REQUIREMENTS, SPECIFICATIONS, AND NATIONAL ELECTRICAL CODE.



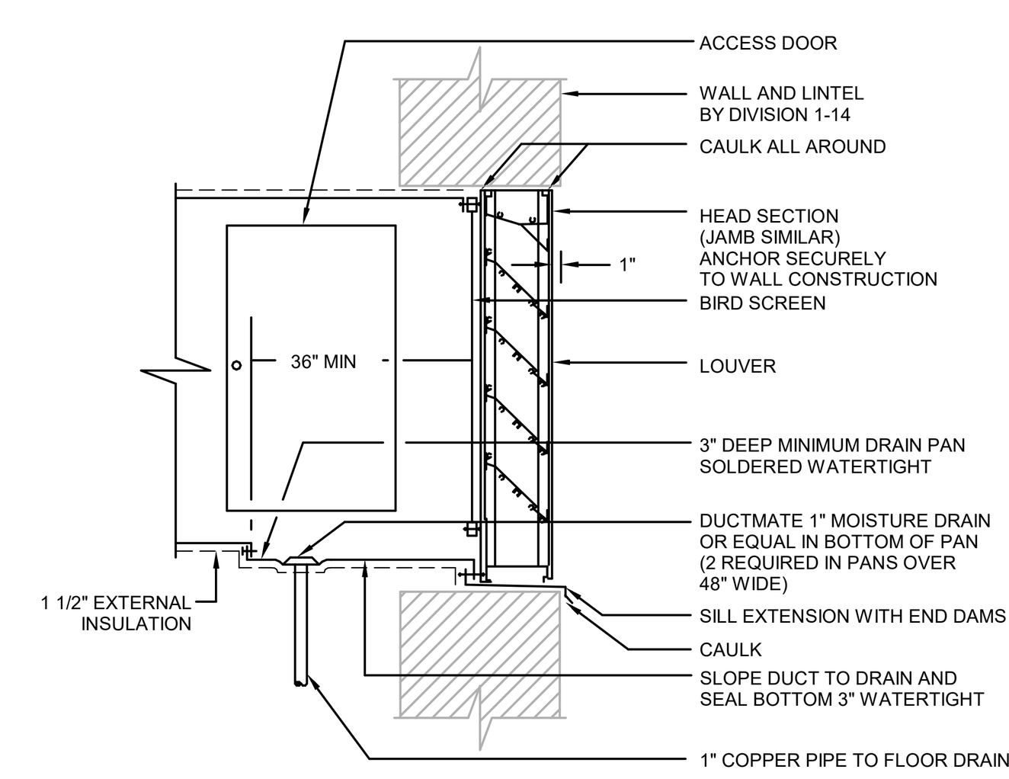
TRANSFER DUCT DETAIL

NO SCALE



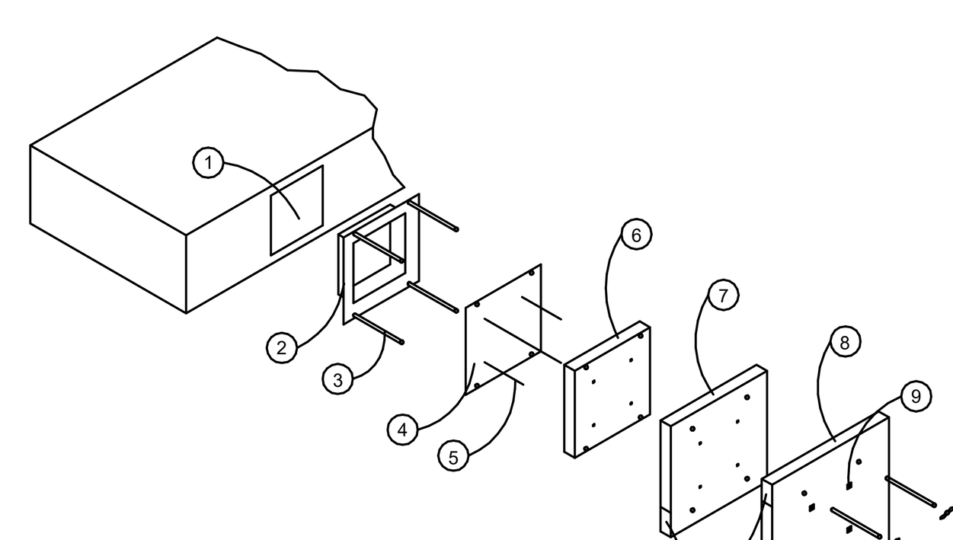
RETURN BOOT DETAIL

NO SCALE



LOUVER DETAIL

NO SCALE

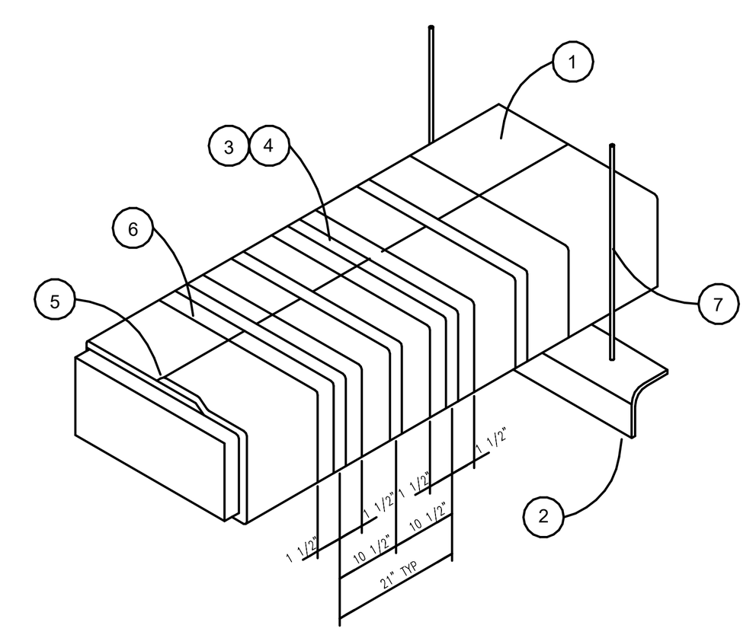


LEGEND	
1	DOOR HOLE
2	ACCESS FRAME WELDED TO DUCT
3	1/4" DIA. ALL THREAD RODS
4	ACCESS COVER - 16 GAUGE
5	INSULATION PINS - WELDED
6	ONE FireMaster DUCT WRAP
7	ONE FireMaster DUCT WRAP 1" OVERLAP
8	ONE FireMaster DUCT WRAP 1" OVERLAP
9	SPEED CLIPS
10	ALUMINUM TAPE AT EDGES
11	SPOOL PIECES FOR THREADED RODS
12	1/4" DIA. WING NUTS

GREASE DUCT ACCESS DOOR DETAIL

NO SCALE

NOTE:
1. THIS DETAIL REPRESENTS TYPICAL INSTALLATION REQUIREMENTS. INSTALL FIREWRAP IN STRICT ACCORDANCE WITH THE MANUFACTURERS INSTALLATION INSTRUCTIONS.

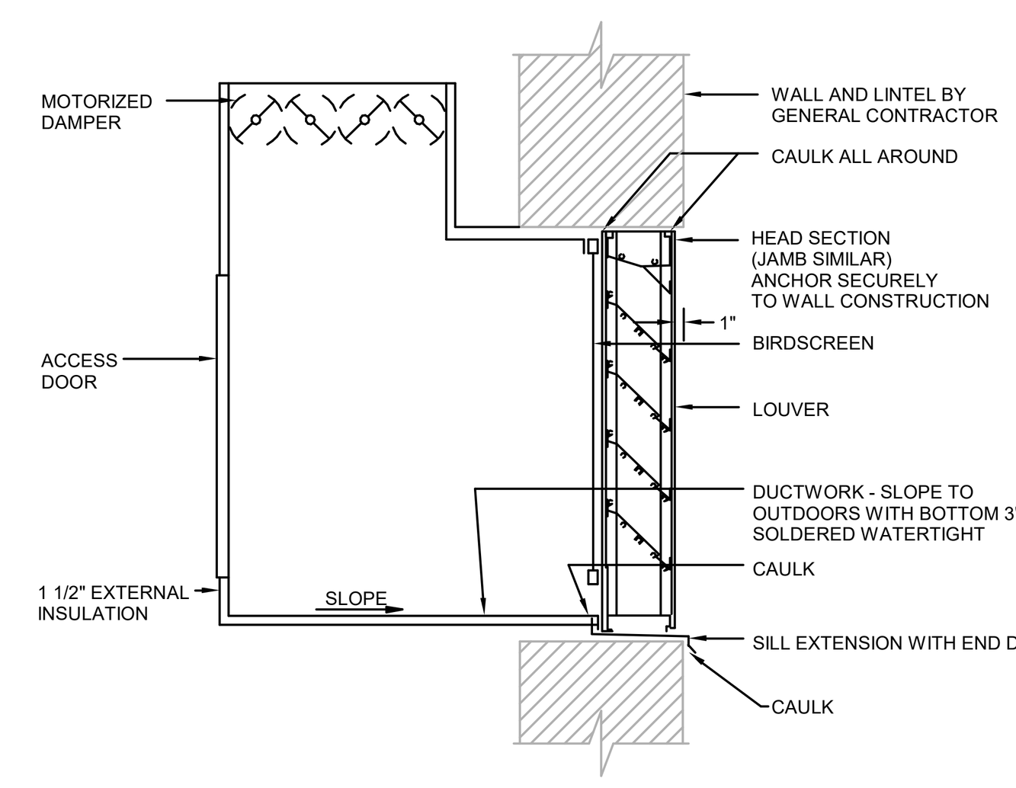


LEGEND	
1	ONE LAYERS FireMaster DUCT WRAP
2	1 1/2"X1 1/2" X 1/8" ANGLE
3	FILAMENT TAPE
4	1/2" STEEL BANDING
5	3" PERIMETER OVERLAP
6	3" LONGITUDINAL OVERLAP
7	3/8" MIN DIAMETER HANGER ROD

1HR FIREWRAP DUCT DETAIL

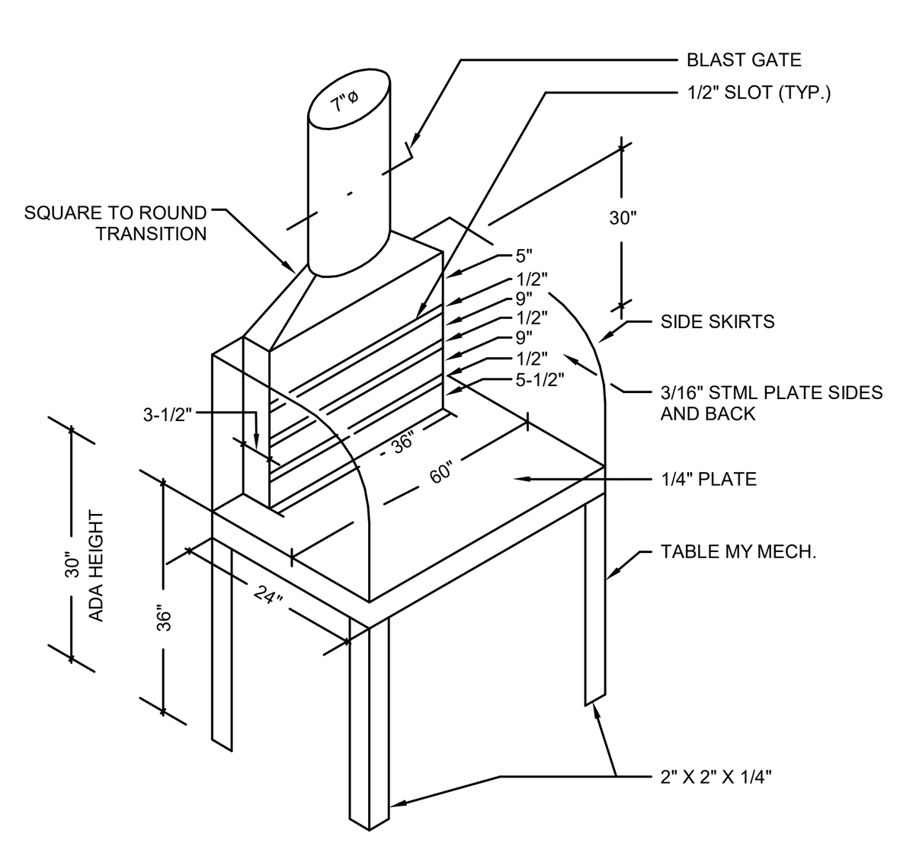
NO SCALE

NOTE:
1. THIS DETAIL REPRESENTS TYPICAL INSTALLATION REQUIREMENTS. INSTALL FIREWRAP IN STRICT ACCORDANCE WITH THE MANUFACTURERS INSTALLATION INSTRUCTIONS.



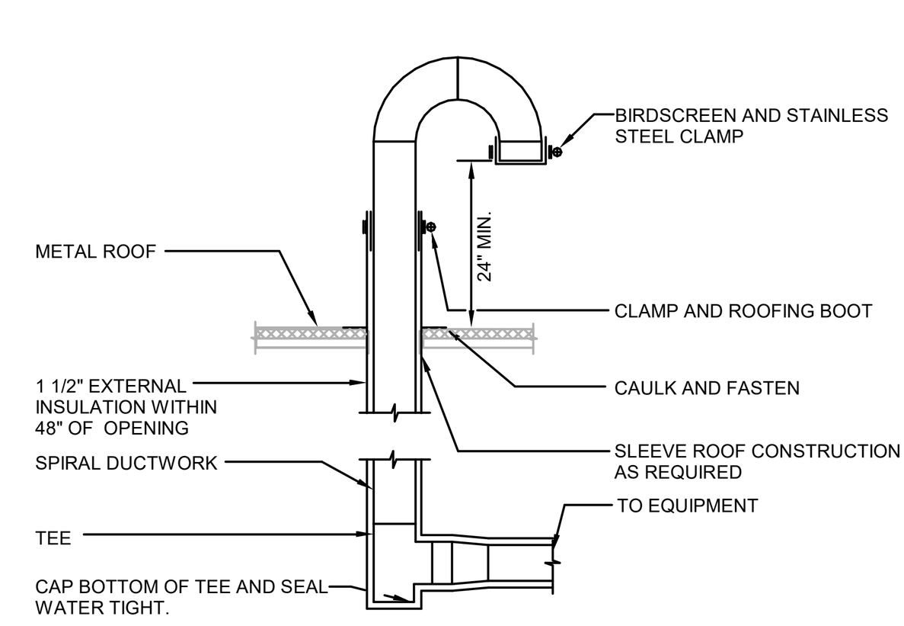
INTAKE AIR LOUVER DETAIL

NO SCALE



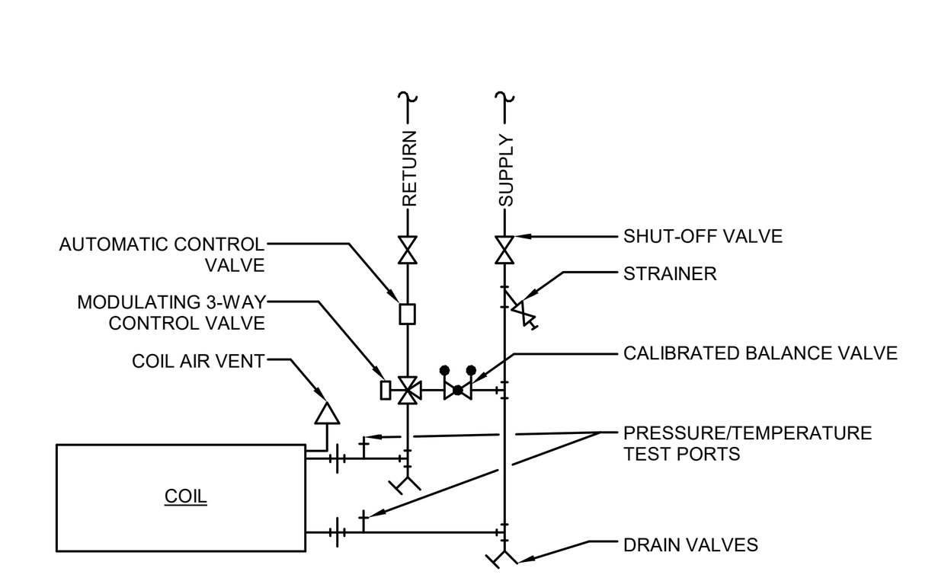
WELDING HOOD DETAIL

NO SCALE



GOOSENECK DUCT DETAIL

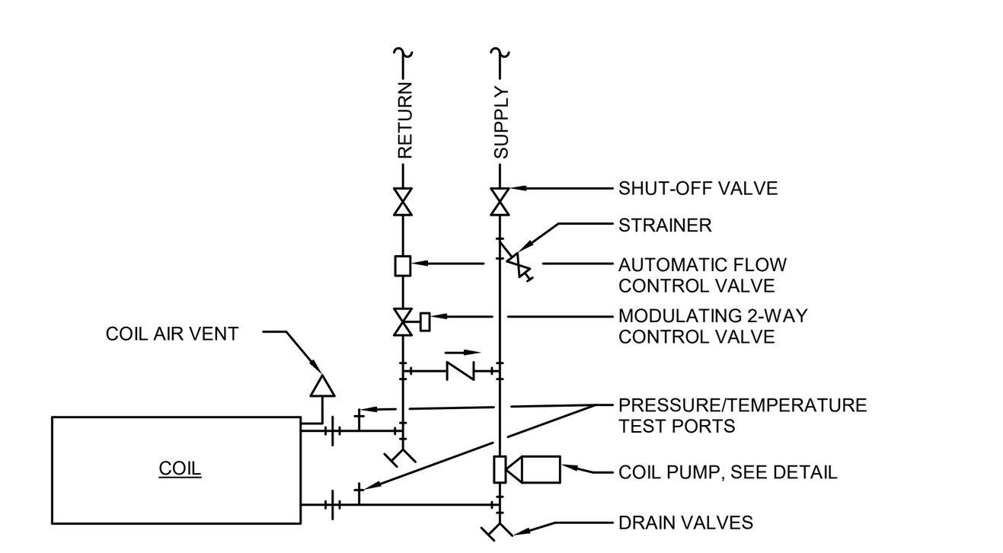
NO SCALE



AHU-2 & AHU-9 HEATING/COOLING COIL PIPING DIAGRAM

NO SCALE

NOTE:
1. MULTI-SECTION COILS SHALL HAVE P&T TEST PORTS, AIR VENTS, DRAINS, SHUT-OFF AND BALANCE VALVES ON EACH SECTION.



AHU-11 HEATING COIL PIPING DIAGRAM

NO SCALE

NOTE:
1. MULTI-SECTION COILS SHALL HAVE P&T TEST PORTS, AIR VENTS, DRAINS, SHUT-OFF AND BALANCE VALVES ON EACH SECTION.

LEGEND

ABBREV.	DESCRIPTION
CW	COLD WATER
HW	HOT WATER
RHW	RECIRCULATED HOT WATER
TW	TEMPERED WATER
SCW	SOFT COLD WATER
SHW	SOFT HOT WATER
SRHW	SOFT RECIRCULATED HOT WATER
NPCW	NON POTABLE COLD WATER
NPHW	NON POTABLE HOT WATER
NPRHW	NON POTABLE RECIRCULATED HOT WATER
SNPCW	SOFT NON POTABLE COLD WATER
SNPHW	SOFT NON POTABLE HOT WATER
SNPRHW	SOFT NON POTABLE RECIRCULATED HOT WATER
DI	DEIONIZED WATER
LSPR	LAWN SPRINKLER
FSPR	FIRE SPRINKLER
A	AIR
O	OXYGEN
VAC	VACUUM
W	WASTE BELOW GRADE
W	WASTE BELOW FLOOR
W	WASTE ABOVE GRADE
AW	ACID WASTE
GW	GREASE WASTE
DS	DOWNSPOUT (RAINWATER)
V	VENT
AV	ACID VENT
HWS	HEATING WATER SUPPLY
HWR	HEATING WATER RETURN
LPS	LOW PRESSURE STEAM SUPPLY
LPR	LOW PRESSURE STEAM RETURN
MPS	MEDIUM PRESSURE STEAM SUPPLY
MPR	MEDIUM PRESSURE STEAM RETURN
HPS	HIGH PRESSURE STEAM SUPPLY
HPR	HIGH PRESSURE STEAM RETURN
CHS	CHILLED WATER SUPPLY
CHR	CHILLED WATER RETURN
DWS	DUAL WATER SUPPLY
DWR	DUAL WATER RETURN
CWS	CONDENSER WATER SUPPLY
CWR	CONDENSER WATER RETURN
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION
HG	HOT GAS
COND	CONDENSATE
G	NATURAL GAS LINE (FIRM)
IG	NATURAL GAS LINE (INTERRUPTIBLE)
LPG	LIQUIFIED PETROLEUM GAS
FOS	FUEL OIL SUPPLY
FOR	FUEL OIL RETURN
FOV	FUEL OIL VENT
SMS	SNOW MELT SUPPLY
SMR	SNOW MELT RETURN
HPS	HEAT PUMP SUPPLY
HPR	HEAT PUMP RETURN

1. SHUT-OFF VALVE
2. PRESSURE REDUCING VALVE
3. BALANCE VALVE
4. CHECK VALVE
5. CONTROL VALVE
6. GAS COCK
7. THERMOMETER
8. PRESSURE GAUGE
9. MANUAL AIR VENT
10. UNION
11. STRAINER W/DRAIN VALVE
12. TOP CONNECTION TEE W/ELBOW
13. BOTTOM CONNECTION TEE W/ELBOW
14. SIDE CONNECTION TEE
15. SHOCK ABSORBER
16. FLOW METER FITTING
17. PIPE ANCHOR
18. BALANCE VALVE W/FLOW METER FITTING
19. FLOW CONTROL VALVE
20. PIPE CAP, PLUG OR CLEANOUT
21. FLOAT AND THERMOSTATIC TRAP
22. PRESSURE AND TEMPERATURE TEST PORT
23. FLOW DIRECTION ARROW
24. EXPANSION JOINT
25. FLEX CONNECTOR
26. PRESSURE AND TEMPERATURE RELIEF VALVE
27. THREE WAY CONTROL VALVE
28. CONTINUATION SYMBOL
29. PIPE DOWN
30. PIPE UP

ABBREV.	DESCRIPTION
	SPLASH BLOCK
	CONNECTION TO EXISTING
CO	CLEANOUT
WH	WALL HYDRANT
FD	FLOOR DRAIN
FSK	FLOOR SINK
HB	HOSE BIBB

SYMBOL	DESCRIPTION
	SUPPLY/OUTSIDE AIR DUCT UP (S/A OR O/A)
	SUPPLY/OUTSIDE AIR ROOF/FLOOR PENETRATION
	SUPPLY/OUTSIDE AIR DUCT DOWN (S/A OR O/A)
	RETURN/EXHAUST AIR DUCT UP (R/A OR E/A)
	RETURN/EXHAUST AIR ROOF/FLOOR PENETRATION
	RETURN/EXHAUST AIR DUCT DOWN (R/A OR E/A)
	ROUND DUCT SECTION UP
	ROUND DUCT ROOF/FLOOR PENETRATION
	ROUND DUCT SECTION DOWN
	DUCT RISE IN DIRECTION
	DUCT DROP IN DIRECTION
	1. WIDTH DIMENSION 2. WIDTH DIMENSION 3. DEPTH DIMENSION
	TYPICAL DUCT TURN R EQUAL TO W (MINIMUM)
	TYPICAL DUCT TURN WITH TURN VANES
	1. CONICAL TAKE-OFF 2. BRANCH DUCT INTO SIDE OF MAIN DUCT
	TYPICAL SQUARE TO ROUND TRANSITION
	FLEXIBLE DUCT CONNECTION (CANVAS)
	1. MOTORIZED DAMPER 2. FIRE DAMPER 3. SMOKE DAMPER
	1. BACKDRAFT DAMPER 2. STATIC PRESSURE SENSOR 3. FIRE/SMOKE DAMPER
	1. REHEAT COIL 2. SPLITTER DAMPER 3. MANUAL VOLUME DAMPER
D1 CFM	REGISTER, GRILLE OR DIFFUSER NO. AIR QUANTITY (CFM)
STAT	THERMOSTAT
STAT	THERMOSTAT W/LOCKING COVER
N.STAT	NIGHT THERMOSTAT
R.STAT	RECESSED STAT (ASPIRATING)
	HUMIDISTAT
	OCCUPIED-UNOCCUP. SWITCH

ABBREV.	DESCRIPTION
A	Air
AFD	Adjustable Frequency Drive
AFF	Above Finished Floor
AFUE	Annual Fuel Utilization Efficiency
AG	Above Grade
AGA	American Gas Association
AHU	Air Handling Unit
ALUM	Aluminum
AMB	Ambient Air Temperature (°F)
APD	Air Pressure Drop (in. W.C.)
ARCHT	Architect, Architectural
ARI	Air-conditioning and Refrigeration Institute
ASHRAE	American Society of Heating, Refrigeration & Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ATC	Automatic Temperature Control
AV	Acid Vent
AW	Acid Waste
AWT	Average Water Temperature (°F)
BAS	Building Automation System
BDD	Backdraft Damper
BG	Below Ground, Below Grade
BHP	Brake Horsepower
BTU	British Thermal Unit
BTUH	British Thermal Units Per Hour
C/A	Combustion Air
CAP	Capacity
CAV	Constant Air Volume
CC	Center to Center
CFM	Cubic Feet per Minute
CHR	Chilled Water Return
CHS	Chilled Water Supply
CLG	Ceiling, Cooling
CO	Cleanout
COMB	Combination, Combustion
CONC	Concrete
COND	Condenser, Condensing, Condensate
CONT	Continuation
COORD	Coordinate
CUH	Cabinet Unit Heater
CW	Cold Water
CWR	Condenser Water Return
CWS	Condenser Water Supply
°F	Degrees Farenheit
D	Diffuser
DB(DBA)	Decibels
DC	Duct Coil
DD	Double Deflection
DDC	Direct Digital Control
DET	Detail
DI	Deionezed Water
DIA	Diameter
DIF	Diffuser
DISCH	Discharge
DIV	Division
DN	Down
DOE	Department of Energy
DPR	Damper
DS	Down Spout
DWR	Dual Water Return
DWS	Dual Water Supply
DWG	Drawing
EAT	Entering Air Temperature(°F)
EER	Energy Efficiency Rating
EEW	Emengency Eye Wash
EF	Exhaust Fan
EFF	Efficiency (Percent)
EH	Exhaust Hood
ELECT	Electrical Characteristics (Volts/PH)
EMG	Expanded Metal grille

ABBREV.	DESCRIPTION
EQUIP	Equipment
ESH	Emergency Shower
ESP	External Static Pressure (IN. W.C.)
EWC	Electric Water Cooler
EWT	Entering Water Temperature(°F)
EXIST	Existing
EXP	Expansion
EXT	External
F/S	Fire/Smoke
FA	Free Area
FCU	Fan Coil Unit
FD	Floor Drain
F. DPR	Fire Damper
FLA	Full Load Amperes
FLEX	Flexible
FOR	Fuel Oil Return
FOS	Fuel Oil Supply
FOV	Fuel Oil Vent
FP	Fan Powered VAV Terminal
FPM	Feet Per Minute
FSK	Floor Sink
FSPR	Fire Sprinkler
FT	Feet
FTG	Fitting
FV	Face Velocity (FPM)
G	Gas, Grille
GA	Gauge
GAL	Gallon
GALV	Galvanized
GPH	Gallons Per Hour
GPM	Gallons Per Minute
GRH	Gravity Relief Hood
H	Height
H2O	Water
HANDI	Handicapped
HC	Heating Coils, Handicapped
HD	Hub Drain
HG	Hot Gas
HP	Horsepower
HPR	High Pressure Steam Return
HPS	High Pressure Steam Supply
HTG	Heating
HW	Hot Water
HWR	Heating Water Return
HWS	Heating Water Supply
ID	Inside Dimension
IG	Interruptable Gas
IH	Intake Hood
IN	Inch
INS	Insulation
I.E.	Invert Elevation
KW	Kilowatts
L	Length, Lavatory
LAT	Leaving Air Temperature(°F)
LBS	Weight in Pounds
LPG	Liquified Petroleum Gas
LPR	Low Pressure Steam Return
LPS	Low Pressure Steam Supply
LSPR	Lawn Sprinkler
LWT	Leaving Water Temperature(°F)
MANUF	Manufacturer
MAX	Maximum
MBH	British Thermal Units x1000
MCA	Minimum Circuit Ampacity
MHP	Motor Horsepower
MIN	Minimum
MFS	Maximum Fuse Size
MOT	Motorized
M. DPR.	Motorized Damper
MPR	Medium Pressure Steam Return
MPS	Medium Pressure Steam Supply
MSK	Mop Sink
MTD	Mounted
NC	Noise Coefficient

ABBREV.	DESCRIPTION
NFPA	National Fire Protection Agency
NO	Number
NP	Non-potable
O	Oxygen
O/A	Outside Air
OC	On Center
OD	Outside Dimension
ODS	Overflow Downspout
OPER	Operator/Operating
OP WT	Operating Weight
OPNG	Opening
ORD	Overflow Roof Drain
PD	Pressure Drop
PH	Phase
PLBG	Plumbing
PNEU	Pneumatic
PRESS	Pressure
PRV	Power Roof Ventilator
PTAC	Package Terminal Air Conditioner
PVC	Polyvinyl Chloride
R	Register, Round
R/A	Return Air
RAD	Radiated, Radiation
RD	Roof Drain
RECIRC	Recirculating
REG	Register, Regulating
REINF	Reinforce
REINF'G	Reinforcing
REQ'D	Required
RL	Refrigerant Liquid
RM	Room
RPM	Revolutions Per Minute
RS	Refrigerant Suction
S/A	Supply Air
S	Soft
SD	Single Deflection
SEER	Seasonal Energy Efficiency Rating
SF	Square Feet
SH	Shower
SHT	Sheet
SHTMTL	Sheet Metal (S/M)
SK	Sink
SP	Static Pressure
SPECS	Specifications
SQ	Square
SS	Stainless Steel
STL	Steel
STRUCT	Structural
SUCT	Suction
TEMP	Temperature
TSP	Total Static Pressure (IN W.C.)
TW	Tempered Water
TYP	Typical
UBC	Uniform Building Code
UH	Unit Heater
UMC	Uniform Mechanical Code
UPC	Uniform Plumbing Code
UR	Urinal
UV	Unit Ventilator
V	Vent, Volts
V/A	Ventilation Air
VAC	Vacuum
VAV	Variable Air Volume
VOL	Volume
VOLTS	Voltage
W	Waste, Width, Watts
W/	With
W/O	Without
WC	Water Column, Water Closet
WF	Wash Fountain
WG	Water Gauge
WPD	Water Pressure Drop(Ft. of Water)
WT.	Weight
WTD	Water Temerature Drop(°F)

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project
HARRISBURG HS - 9TH GRADE ACADEMY

sheet contents
LEGEND & DETAILS

number 1002.2904.20
date 11-19-21
revision
drawn DK/DM checked Td

NO.	DATE	DESCRIPTION
1	12-10-21	ADDM M2

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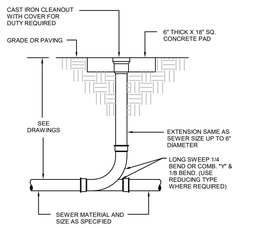
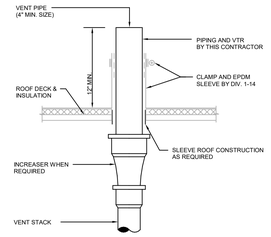


EXTERIOR CLEANOUT DETAIL

NO SCALE



PLUMBING VENT DETAIL

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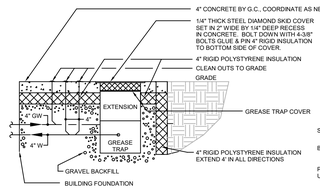
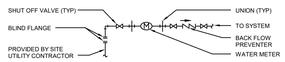


NOTE:
SEE PLAN FOR ADDITIONAL INSULATION REQUIREMENTS

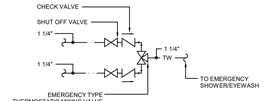
GREASE TRAP DETAIL

NO SCALE



WATER METER PIPING DIAGRAM

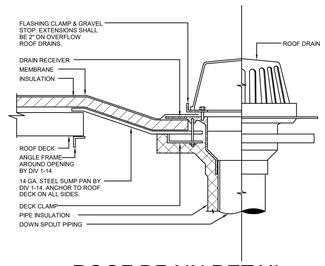
NO SCALE



EMERGENCY EYEWASH & SHOWER PIPING DETAIL

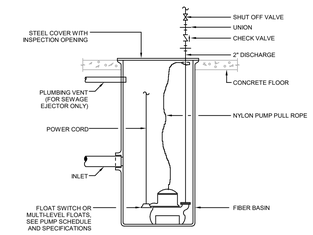
NO SCALE

NOTES:
1. PROVIDE TAGS AT SHUT OFF VALVES WHICH READ "EMERGENCY FIXTURE. DO NOT CLOSE UNLESS AUTHORIZED".
2. INSTALL EMERGENCY FIXTURES PER MANUFACTURERS INSTRUCTIONS AND APPLICABLE STANDARDS.



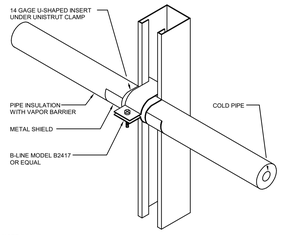
ROOF DRAIN DETAIL

NO SCALE



SUBMERSIBLE SUMP PUMP

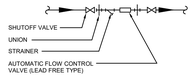
NO SCALE



NOTE:
PIPING INSULATION SHALL BE CONTINUOUS THROUGH THE PIPE CLAMP WITH NO PENETRATIONS OF THE VAPOR BARRIER.

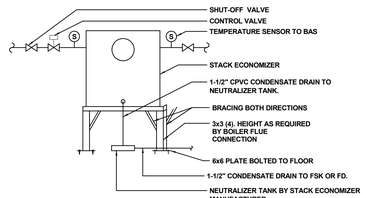
COLD PIPING SUPPORT DETAIL

NO SCALE



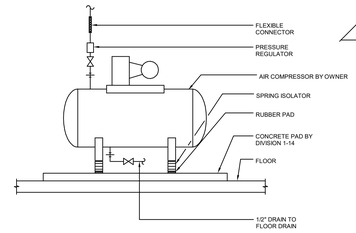
DOMESTIC RECIRCULATED HOT WATER AUTOMATIC FLOW CONTROL VALVE PIPING DETAIL

NO SCALE



STACK ECONOMIZER DETAIL

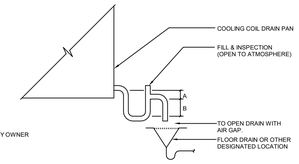
NO SCALE



AIR COMPRESSOR PIPING DETAIL

NO SCALE

NOTE:
1. PROVIDE ADDITIONAL VALVING AND PIPING CONNECTIONS FOR ONWER PROVIDED AIR DRYER



TRAP DIMENSION ("A" AND "B") VARY AS DETERMINED BY INTERNAL STATIC PRESSURE AT POINT OF CONNECTION.

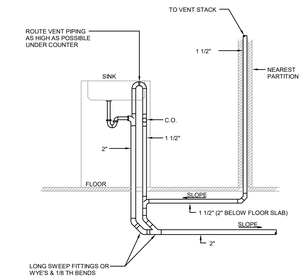
DIMENSION	POSITIVE STATIC PRESSURE	NEGATIVE STATIC PRESSURE
"A"	$SP_{MAX.}$	1.5 X SP
"B"	1.5 X SP	SP_{MAX}

SP_{max} = MAXIMUM STATIC PRESSURE TO BE EXPERIENCED (DESIGN AT POINT OF CONNECTION).

COOLING COIL DRAIN TRAP DETAIL

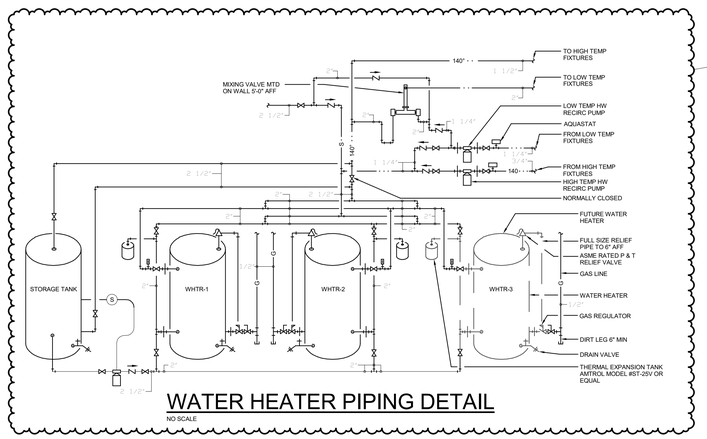
NO SCALE

NOTE:
THIS DETAIL REPRESENTS TYPICAL INSTALLATION REQUIREMENTS. INSTALL CONDENSATE DRAIN IN STRICT ACCORDANCE WITH THE MANUFACTURERS RECOMMENDED INSTRUCTIONS.



ISLAND SINK INSTALLATION

NO SCALE



WATER HEATER PIPING DETAIL

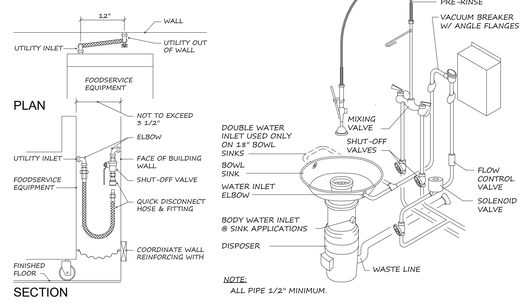
NO SCALE

BOILER & STACK ECONOMIZER DETAIL

NO SCALE

NOTE: IF UTILITY INLET IS NOT AT HEIGHT SHOWN, MECHANICAL TRADES TO PROVIDE PIPING WITH ELBOWS TO RAISE INLET

FIELD VERIFY LOCATIONS OF CONNECTION POINTS DRAWINGS SHOWN ARE TO BE USED AS A GUIDE LINE



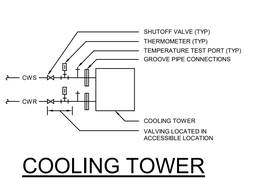
GAS DISCONNECT DETAIL

NO SCALE

NOTE:
ALL PIPE 1/2" MINIMUM.

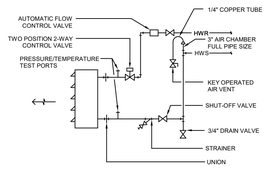
DISPOSER PIPE DETAIL

NO SCALE



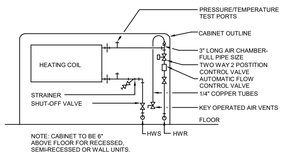
COOLING TOWER PIPING DETAIL

NO SCALE



UNIT HEATER PIPING DETAIL

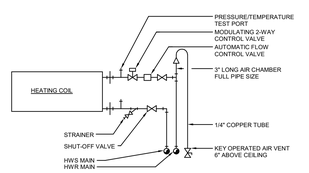
NO SCALE



NOTE: CABINET TO BE 6" ABOVE FLOOR FOR RECESSED, SEMI-RECESSED OR WALL UNITS.

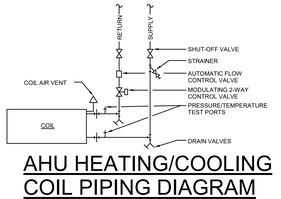
CABINET UNIT HEATER PIPING DETAIL

NO SCALE



HEATING COIL PIPING DETAIL

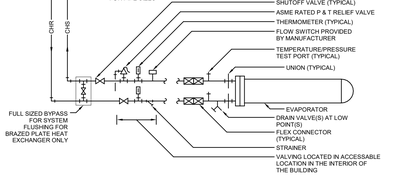
NO SCALE



AHU HEATING/COOLING COIL PIPING DIAGRAM

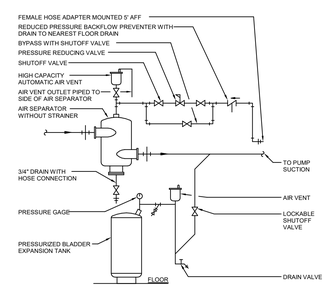
NO SCALE

NOTE:
1. MULTI-SECTION COILS SHALL HAVE P&T TEST PORTS, AIR VENTS, DRAINS, SHUT-OFF AND BALANCE VALVES ON EACH SECTION.



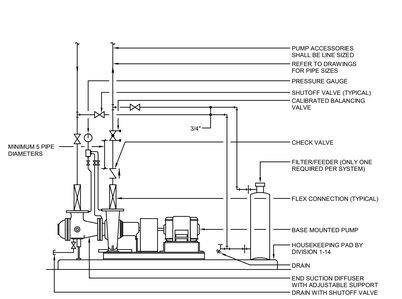
CHILLER TUBE BUNDLE DETAIL

NO SCALE



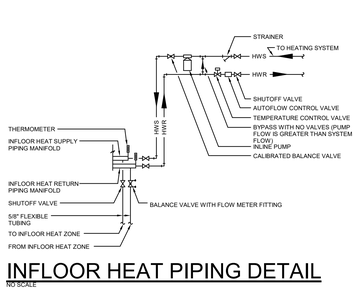
EXPANSION TANK DETAIL

NO SCALE



BASE MOUNTED PUMP PIPING DETAIL

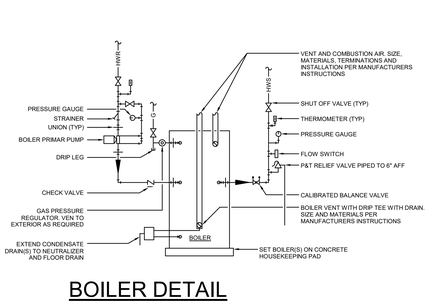
NO SCALE



NOTE :
1. SEE DRAWINGS FOR NUMBER OF CIRCUITS PER ZONE. (SINGLE CIRCUIT ZONES NEED NOT HAVE MANIFOLDS BUT DO REQUIRE VALVES.)

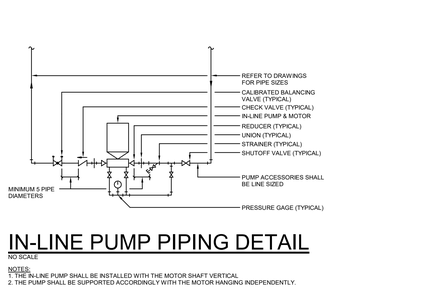
INFLOOR HEAT PIPING DETAIL

NO SCALE



BOILER DETAIL

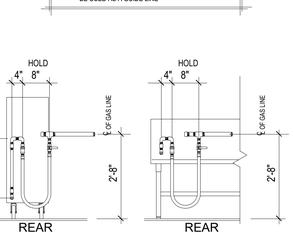
NO SCALE



IN-LINE PUMP PIPING DETAIL

NO SCALE

NOTES:
1. THE IN-LINE PUMP SHALL BE INSTALLED WITH THE MOTOR SHAFT VERTICAL
2. THE PUMP SHALL BE SUPPORTED ACCORDINGLY WITH THE MOTOR HANGING INDEPENDENTLY.



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project
HARRISBURG HS - 9TH GRADE ACADEMY

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NO.	DATE	DESCRIPTION
1	12-10-21	ADDM M2

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AIR HANDLING UNIT SCHEDULE

UNIT NO.	MANUF.	MODEL NO.	CFM	MIN O/A CFM	ESP	TSP	FAN HP	BHP	ELEC VOLTS	PH	FAN TYPE/SIZE	RPM	COOLING COIL CAPACITY MBH	EAT	LAT	FV	APD	EWT	LWT	GPM	WPD	HEATING COIL CAPACITY MBH	EAT	LAT	FV	APD	EWT	LWT	GPM	WPD	FILTER TYPE	AREA(SF)	MAX FV	APD	THICK	OPER. WT(LBS)	REMARKS
AHU-1	DAIKIN	CAH014GDGM	6,500	1,350	2.5	4.5	7.5	6.67	460	3	DD, PLENUM / 20"	2181	214.8	78.6/64.9	54.1/53.6	500	0.77	44	56	37	10	85.0	52.5	65.1	500	0.2	160	130	6	5	MERV 8	21.5	300	0.56	2	2,820	1,2,3,4
AHU-2	DAIKIN	CAH019GDGM	9,400	3,780	1.5	3.7	10	7.6	460	3	DD, PLENUM / 27"	1375	385.5	82.1/67.0	54.3/53.8	500	0.80	44	56	65	16	586.1	32.0	92.2	500	0.3	160	130	42	8	MERV 8	37.7	300	0.55	2	3,945	1,2,3,4
AHU-3	DAIKIN	CAH030GDGM	10,000	6,900	1.5	3.5	10	7.7	460	3	DD, PLENUM / 27"	1380	511.2	87.1/69.8	54.3/53.8	500	0.90	44	56	89	6	950.4	9.6	103	500	0.3	160	130	68	10	MERV 8	52.9	300	0.53	2	5,050	1,2,3,4
AHU-4	DAIKIN	CAH013GDGM	6,300	600	1.5	3.4	7.5	4.8	460	3	DD, PLENUM / 22.25"	1630	184.1	76.7/53.6	54.3/53.8	500	0.60	44	56	26	6	215.1	65.0	98	500	0.3	160	130	16	5	MERV 8	20.2	300	0.56	2	2,850	1,2,3,4
AHU-5	DAIKIN	CAH006GDGM	2,500	1,100	1.5	3.7	3	2.3	460	3	DD, PLENUM / 14"	2895	105.1	82.3/67.3	54.3/53.8	500	1.00	44	56	19	7	190.1	31.0	105	500	0.3	160	130	14	9	MERV 8	13.9	300	0.53	2	1,800	1,2,3,4
AHU-6	DAIKIN	CAH038GDGM	17,100	6,410	2.5	4.5	15(X2)	8.5(X2)	460	3	DD, PLENUM / 24.5"	1675	680.1	81.6/66.7	54.3/53.8	500	0.80	44	56	98	8	525.1	37.0	65	500	0.2	160	130	35	9	MERV 8	62.9	300	0.55	2	6,640	1,2,3,4,5
AHU-7	DAIKIN	CAH016GDGM	7,700	1,350	2.5	4.6	10	7.9	460	3	DD, PLENUM / 24.5"	1641	248.1	78.1/64.5	54.3/53.8	500	0.90	44	56	44	9	122.1	50.0	65	500	0.2	160	130	9	5	MERV 8	34.1	300	0.54	2	3,260	1,2,3,4
AHU-8	DAIKIN	CAH043GDGM	19,700	6,840	2.5	4.6	15(X2)	10.2(X2)	460	3	DD, PLENUM / 24.5"	1780	760.1	81.1/66.4	54.3/53.8	500	0.90	44	56	134	12	550.1	40.0	65	500	0.2	160	130	38	14	MERV 8	65.5	300	0.56	2	7,200	1,2,3,4,5
AHU-9	DAIKIN	CAH066GDGM	29,800	10,210	2.5	4..6	20(X2)	15.6(X2)	460	3	DD, PLENUM / 30"	1475	1,150.1	81.0/66.3	54.3/53.8	500	0.90	44	56	200	12	813.6	40.0	65	500	0.2	160	130	57	6	MERV 8	104.1	300	0.55	2	10,300	1,2,3,4,5
AHU-10	DAIKIN	CAH009GDGM	4,250	1,990	1.5	3.7	5	3.5	460	3	DD, PLENUM / 18.25"	2050	183.5	83.3/67.6	54.3/53.8	500	1.0	44	56	32	7	270.1	26.0	85	500	0.3	160	130	19	5	MERV 8	17.6	300	0.54	2	2,450	1,2,3,4
AHU-11	DAIKIN	LAH015A	6,000	---	0.75	1.17	7.5	2.45	460	3	DD, PLENUM / 20"	1670	---	---	---	---	---	---	---	---	---	376.6	25.0	85.5	500	0.2	160	130	22	2	MERV 8	16.9	300	0.22	2	900	1,2,3,4

REMARKS:
1. HEATING AND COOLING COIL CAPACITIES ARE BASED ON 70% WATER/30% PROPYLENE GLYCOL.
2. DIRECT DRIVE PLENUM FAN CONTROLLED BY VFD.
3. ESP INCLUDES AN ALLOWANCE OF 0.5" FOR DIRTY FILTERS.
4. ACCESS SHALL BE PROVIDED INTO THE FILTER SECTION, BLENDER SECTION, BETWEEN THE HEATING AND COOLING COILS AND FAN SECTION. PROVIDE 15 INCH (MIN.) DOORS AND 18 INCH (MIN.) SPACE BETWEEN COILS. PROVIDE HEAVY DUTY 18 GAUGE STAINLESS STEEL DRAIN PANS FOR COMPLETE DRAINAGE AND WALKING TRAFFIC.
5. AIR HANDLER MANUFACTURER SHALL PROVIDE AND MOUNT CONDUIT AND WIRING FROM EACH FAN TERMINATED AT AN EXTERNAL JUNCTION BOX. TC CONTRACTOR TO PROVIDE AND INSTALL A SINGULAR VFD FOR DUAL FAN ARRANGEMENT CONTROL.

2

FAN POWERED VAV TERMINAL SCHEDULE

UNIT NO.	MANUF.	MODEL NO.	INLET SIZE	CFM	MIN CFM	TERM. S.P.	EXT S.P.	RAD NC	DISCH NC	MOTOR HP	MOTOR VOLT	PH	FLA	HEATING COIL EAT	MBH	GPM	WPD	EWT	LWT	REMARKS
FP-B101	PRICE	FDVLP	10	990	300	0.25"	0.5"	29	26	1/2	277	1	2.9	64	28.8	2.0	5	160	130	1,2,3,4,5,6
FP-C100	PRICE	FDVLP	10	1400	420	0.25"	0.5"	33	34	1/2	277	1	2.9	64	49.7	4.4	5	160	130	1,2,3,4,5,6
FP-C105	PRICE	FDV	12	1130	340	0.25"	0.5"	33	34	1/2	277	1	4.0	64	46.5	3.2	5	160	130	1,2,3,4,5
FP-C109	PRICE	FDV	16	1730	520	0.25"	0.5"	40	35	1	277	1	5.9	64	59.8	4.2	5	160	130	1,2,3,4,5
FP-C116A	PRICE	FDV	14	1700	510	0.25"	0.5"	33	39	1	277	1	5.9	64	29.3	2.0	5	160	130	1,2,3,4,5
FP-C116B	PRICE	FDV	14	1700	510	0.25"	0.5"	33	39	1	277	1	5.9	64	29.3	2.0	5	160	130	1,2,3,4,5
FP-C120	PRICE	FDV	10	880	270	0.25"	0.5"	29	26	1/2	277	1	4.0	64	21.5	1.5	5	160	130	1,2,3,4,5
FP-C126	PRICE	FDV	16	2740	830	0.25"	0.5"	40	35	1	277	1	5.9	64	110.9	7.7	5	160	130	1,2,3,4,5
FP-C127	PRICE	FDV	12	1170	360	0.25"	0.5"	33	34	1/2	277	1	4.0	64	52.9	3.7	5	160	130	1,2,3,4,5
FP-D137A	PRICE	FDV	16	1930	580	0.25"	0.5"	40	35	1	277	1	5.9	64	57.4	4.0	5	160	130	1,2,3,4,5
FP-D137B	PRICE	FDV	16	1930	580	0.25"	0.5"	40	35	1	277	1	5.9	64	57.4	4.0	5	160	130	1,2,3,4,5
FP-D137C	PRICE	FDV	16	1930	580	0.25"	0.5"	40	35	1	277	1	5.9	64	57.4	4.0	5	160	130	1,2,3,4,5
FP-D137D	PRICE	FDV	16	1930	580	0.25"	0.5"	40	35	1	277	1	5.9	64	57.4	4.0	5	160	130	1,2,3,4,5
FP-D138	PRICE	FDV	14	1690	510	0.25"	0.5"	33	39	1/2	277	1	4.0	64	39.9	2.8	5	160	130	1,2,3,4,5
FP-D141	PRICE	FDV	10	825	250	0.25"	0.5"	29	26	1/2	277	1	4.0	64	20.1	1.4	5	160	130	1,2,3,4,5
FP-D142	PRICE	FDV	12	1285	390	0.25"	0.5"	33	34	1/2	277	1	4.0	64	34.2	2.4	5	160	130	1,2,3,4,5
FP-D143	PRICE	FDV	6	260	80	0.25"	0.5"	25	20	1/3	277	1	2.1	64	7.4	0.5	5	160	130	1,2,3,4,5
FP-D200	PRICE	FDV	12	1340	410	0.25"	0.5"	33	34	1/2	277	1	4.0	64	29.2	2.0	5	160	130	1,2,3,4,5
FP-D201	PRICE	FDV	8	680	210	0.25"	0.5"	28	22	1/3	277	1	2.1	64	17.0	1.2	5	160	130	1,2,3,4,5
FP-D205	PRICE	FDV	8	670	210	0.25"	0.5"	28	22	1/3	277	1	2.1	64	17.0	1.2	5	160	130	1,2,3,4,5
FP-D208	PRICE	FDV	12	1165	350	0.25"	0.5"	29	26	1/2	277	1	4.0	64	40.5	2.8	5	160	130	1,2,3,4,5
FP-D210	PRICE	FDV	10	750	230	0.25"	0.5"	33	34	1/2	277	1	4.0	64	18.4	1.3	5	160	130	1,2,3,4,5
FP-D211	PRICE	FDV	12	1370	420	0.25"	0.5"	33	34	1/2	277	1	4.0	64	29.7	2.1	5	160	130	1,2,3,4,5
FP-D212	PRICE	FDV	10	865	260	0.25"	0.5"	29	26	1/2	277	1	4.0	64	20.5	1.4	5	160	130	1,2,3,4,5
FP-D213	PRICE	FDV	10	750	230	0.25"	0.5"	29	26	1/2	277	1	4.0	64	19.6	1.4	5	160	130	1,2,3,4,5
FP-E108	PRICE	FDV	8	665	200	0.25"	0.5"	28	22	1/3	277	1	2.1	64	18.6	1.3	5	160	130	1,2,3,4,5
FP-E109	PRICE	FDV	8	665	200	0.25"	0.5"	28	22	1/3	277	1	2.1	64	18.6	1.3	5	160	130	1,2,3,4,5
FP-E110	PRICE	FDV	8	665	200	0.25"	0.5"	28	22	1/3	277	1	2.1	64	18.6	1.3	5	160	130	1,2,3,4,5
FP-E111	PRICE	FDV	8	665	200	0.25"	0.5"	28	22	1/3	277	1	2.1	64	18.6	1.3	5	160	130	1,2,3,4,5
FP-E112	PRICE	FDV	10	745	230	0.25"	0.5"	29	26	1/2	277	1	4.0	64	22.7	1.6	5	160	130	1,2,3,4,5
FP-E114	PRICE	FDV	10	830	250	0.25"	0.5"	29	26	1/2	277	1	4.0	64	31.1	2.2	5	160	130	1,2,3,4,5
FP-E115A	PRICE	FDV	14	1990	600	0.25"	0.5"	33	39	1	277	1	5.9	64	44.4	3.1	5	160	130	1,2,3,4,5
FP-E115B	PRICE	FDV	14	1790	540	0.25"	0.5"	33	39	1	277	1	5.9	64	31.2	2.2	5	160	130	1,2,3,4,5
FP-E115C	PRICE	FDV	14	1790	540	0.25"	0.5"	33	39	1	277	1	5.9	64	31.2	2.2	5	160	130	1,2,3,4,5
FP-E118	PRICE	FDV	10	950	290	0.25"	0.5"	29	26	1/2	277	1	4.0	64	31.3	2.2	5	160	130	1,2,3,4,5
FP-E122	PRICE	FDV	10	985	300	0.25"	0.5"	29	26	1/2	277	1	4.0	64	28.3	2.0	5	160	130	1,2,3,4,5
FP-E125	PRICE	FDV	10	1015	310	0.25"	0.5"	29	26	1/2	277	1	4.0	64	22.9	1.6	5	160	130	1,2,3,4,5
FP-E127	PRICE	FDV	12	1060	320	0.25"	0.5"	33	34	1/2	277	1	4.0	64	29.1	2.0	5	160	130	1,2,3,4,5
FP-E128	PRICE	FDV	10	885	270	0.25"	0.5"	29	26	1/2	277	1	4.0	64	21.3	1.5	5	160	130	1,2,3,4,5
FP-E130	PRICE	FDV	8	665	200	0.25"	0.5"	28	22	1/3	277	1	2.1	64	17.8	1.2	5	160	130	1,2,3,4,5
FP-E208	PRICE	FDV	8	700	210	0.25"	0.5"	28	22	1/3	277	1	2.1	64	18.7	1.3	5	160	130	1,2,3,4,5
FP-E209	PRICE	FDV	8	700	210	0.25"	0.5"	28	22	1/3	277	1	2.1	64	18.7	1.3	5	160	130	1,2,3,4,5
FP-E210	PRICE	FDV	8	700	210	0.25"	0.5"	28	22	1/3	277	1	2.1	64	18.7	1.3	5	160	130	1,2,3,4,5
FP-E211	PRICE	FDV	8	700	210	0.25"	0.5"	28	22	1/3	277	1	2.1	64	18.7	1.3	5	160	130	1,2,3,4,5
FP-E212	PRICE	FDV	10	785	240	0.25"	0.5"	29	26	1/2	277	1	4.0	64	22.7	1.6	5	160	130	1,2,3,4,5
FP-E214	PRICE	FDV	10	860	260	0.25"	0.5"	29	26	1/2	277	1	4.0	64	30.9	2.2	5	160	130	1,2,3,4,5
FP-E215A	PRICE	FDV	16	2310	700	0.25"	0.5"	40	35	1	277	1	5.9	64	65.4	4.6	5	160	130	1,2,3,4,5
FP-E215B	PRICE	FDV	16	2310	700	0.25"	0.5"	40	35	1	277	1	5.9	64	65.4	4.6	5	160	130	1,2,3,4,5
FP-E215C	PRICE	FDV	16	2310	700	0.25"	0.5"	40	35	1	277	1	5.9	64	65.4	4.6	5	160	130	1,2,3,4,5
FP-E218	PRICE	FDV	10	970	300	0.25"	0.5"	29	26	1/2	277	1	4.0	64	29.7	2.1	5	160	130	1,2,3,4,5
FP-E220	PRICE	FDV	10	1050	320	0.25"	0.5"	29	26	1/2	277	1	4.0	64	26.2	1.8	5	160	130	1,2,3,4,5
FP-E223	PRICE	FDV	10	1010	310	0.25"	0.5"	29	26	1/2	277	1	4.0	64	25.2	1.8	5	160	130	1,2,3,4,5
FP-E225	PRICE	FDV	12	1100	330	0.25"	0.5"	33	34	1/2	277	1	4.0	64	29.3	2.0	5	160	130	1,2,3,4,5
FP-E226	PRICE	FDV	10	900	270	0.25"	0.5"	29	26	1/2	277	1	4.0	64	21.0	1.5	5	160	130	1,2,3,4,5
FP-E229	PRICE	FDV	8	620	190	0.25"	0.5"	28	22	1/3	277	1	2.1	64	10.7	0.7	5	160	130	1,2,3,4,5

REMARKS:
1. SOUND DATA SHALL BE TAKEN FROM ARI STANDARDS 880 (LATEST PUBLISHED DATA @ 1.5" DELTA P.)
2. NC RATING INCLUDE A RETURN INLET ATTENUATOR. PROVIDE RETURN INLET ATTENUATOR.
3. EXT. S.P. INCLUDES A COIL APD.
4. COIL CAPACITIES ARE BASED ON 70% WATER/30% PROPYLENE GLYCOL.
5. PROVIDE ECM MOTOR CAPABLE OF ACCEPTING A 0-10V SIGNAL FROM THE BAS. SIZE FAN FOR 70% OF THE MAX CFM.
6. PROVIDE LOW-PROFILE TYPE UNIT.

RELIEF HOOD SCHEDULE

UNIT NO.	MANUF.	MODEL NO.	HOOD SIZE	THROAT SIZE	THROAT AREA	CFM	THROAT FPM	PD IN. WG	OPER. WT. (LBS)	REMARKS
RH-1	GREENHECK	FGR	51/34	30/20	4	2090	502	0.06	75	1
RH-2	GREENHECK	FGR	51/34	30/20	4	2090	502	0.06	75	1
RH-3	GREENHECK	FGR	51/49	36/30	8	3640	485	0.06	100	1
RH-4	GREENHECK	FGR	51/49	36/30	8	3640	485	0.06	100	1
RH-5	GREENHECK	FGR	68/75	44/52	15.9	8,000	503	0.06	180	1

REMARKS:
1. PROVIDE INSULATED ROOF CURB, MOTORIZED DAMPER, BACKDRAFT DAMPER AND BIRDSCREEN. SEE DETAIL.

DUCTLESS SPLIT SYSTEM SCHEDULE

UNIT NO.	MANUF.	MODEL NO.	TOTAL CFM	MOTOR VOLT	PH	MCA	COOLING COIL MBH	OPERATING WEIGHT (LBS)	REMARKS
DSS-C121A	MITSUBISHI	PKA-A18KA7	425	208	1	1	18	---	1,2,3

REMARKS:
1. PROVIDE WATER LEVEL DETECTION DEVICE THAT WILL SHUT OFF RESPECTIVE UNIT IN THE EVENT THAT THE PRIMARY DRAIN IS BLOCKED.
2. PROVIDE WIRED THERMOSTAT.
3. UNIT POWERED FROM CONDENSING UNIT.

2

CONDENSING UNIT SCHEDULE

UNIT NO.	MANUF.	MODEL NO.	MATCHED UNIT	CAPACITY MBH	AMB AIR TEMP	ELECTRICAL VOLT	PH	MCA	MOCP	EER	OPERATING WEIGHT (LBS)	REMARKS
CU-C121A	MITSUBISHI	PUY-A18NHA7	DSS-C121A	18	95	208	1	11	20	10	175	1,2,3

REMARKS:
1. PROVIDE LOW AMBIENT KIT DOWN TO -20°F. AND ALL MANUFACTURERS RECOMMENDED ACCESSORIES. COMPRESSOR SHALL BE INVERTER DRIVEN.
2. PROVIDE REFRIGERANT LINES AND ROUTING PER MANUFACTURERS RECOMMENDATIONS. REF. R-410A.
3. PROVIDE 5K SCCR RATING.

DUST COLLECTOR SCHEDULE

UNIT NO.	MANUF.	MODEL NO.	CFM	S.P.	FAN MOTOR HP	VOLT	PH	OPER. WT. (LBS)	REMARKS
DC-1	AGET	70SN70-D2	3200	13.5	15	460	3	650	1,2,3,4

REMARKS:
1. PROVIDE SAFETY MONITORING FILTER. SEE SPEC FOR MORE DETAIL.
2. PROVIDE 12" INTEGRATED DUST COLLECTOR INLET BACK DRAFT DAMPER & EXPLOSION VENT.
3. PROVIDE MODEL FT40 AFTER FILTER. SEE SPEC FOR MORE DETAIL.
4. PROVIDE 5K SCCR RATING.

VAV TERMINAL SCHEDULE

2

UNIT NO.	MANUF.	MODEL NO.	INLET SIZE	CLG CFM MAX	CLG CFM MIN	HTG CFM MAX	TERM S.P.	RAD NC	DISCH NC	HEATING COIL EAT	MBH	GPM	WPD	EWT	LWT	REMARKS
VAV-A103	PRICE	SDV	12	1420	430	430	0.5"	25	26	55	14.8	1.0	5	160	130	1,2,3
VAV-A104	PRICE	SDV	24X16	4200	1260	1260	0.5"	20	26	55	189	12.5	7	160	130	1,2,3
VAV-A112	PRICE	SDV	8	540	170	170	0.5"	24	25	55	5.9	0.5	5	160	130	1,2,3
VAV-C111	PRICE	SDV	6	135	50	50	0.5"	20	21	55	1.4	0.5	5	160	130	1,2,3
VAV-C121	PRICE	SDV	8	395	120	120	0.5"	24	25	55	4.2	0.5	5	160	130	1,2,3
VAV-D100	PRICE	SDV	10	730	220	220	0.5"	23	24	55	15.0	1.0	5	160	130	1,2,3
VAV-D101	PRICE	SDV	6	290	90	90	0.5"	20	21	55	2.6	0.5	5	160	130	1,2,3
VAV-D103	PRICE	SDV	6	300	90	90	0.5"	20	21	55	2.1	0.5	5	160	130	1,2,3
VAV-D111	PRICE	SDV	6	275	90	90	0.5"	20	21	55	3.0	0.5	5	160	130	1,2,3
VAV-D112	PRICE	SDV	6	250	80	80	0.5"	20	21	55	2.4	0.5	5	160	130	1,2,3
VAV-D113	PRICE	SDV	8	450	140	155	0.5"	24	25	55	10.7	0.7	5	160	130	1,2,3
VAV-D114	PRICE	SDV	8	410	130	165	0.5"	24	25	55	11.5	0.8	5	160	130	1,2,3
VAV-D116	PRICE	SDV	8	420	130	175	0.5"	24	25	55	12.2	0.9	5	160	130	1,2,3
VAV-D121	PRICE	SDV	6	225	70	70	0.5"	20	21	55	1.9	0.5	5	160	130	1,2,3
VAV-D122B	PRICE	SDV	6	250	80	130	0.5"	20	21	55	9.0	0.6	5	160	130	1,2,3
VAV-D124	PRICE	SDV	6	300	90	90	0.5"	20	21	55	2.6	0.5	5	160	130	1,2,3
VAV-D126	PRICE	SDV	6	240	80	80	0.5"	20	21	55	2.4	0.5	5	160	130	1,2,3
VAV-D127	PRICE	SDV	10	960	290	290	0.5"	23	24	55	14.2	1.0	5	160	130	1,2,3
VAV-D131	PRICE	SDV	6	160	50	50	0.5"	20	21	55	1.3	0.5	5	160	130	1,2,3
VAV-D133	PRICE	SDV	6	100	30	30	0.5"	20	21	55	0.8	0.5	5	160	130	1,2,3
VAV-D135	PRICE	SDV	6	330	100	100	0.5"	24	25	55	2.5	0.5	5	160	130	1,2,3
VAV-D136	PRICE	SDV	6	175	60	60	0.5"	20	21	55	1.7	0.5	5	160	130	1,2,3
VAV-D147	PRICE	SDV	10	760	230	230	0.5"	23	24	55	12.7	0.9	5	160	130	1,2,3
VAV-D202	PRICE	SDV	6	170	60	60	0.5"	20	21	55	3.9	0.5	5	160	130	1,2,3
VAV-D203	PRICE	SDV	6	105	40	40	0.5"	20	21	55	1.1	0.5	5	160	130	1,2,3
VAV-D204	PRICE	SDV	6	75	30	30	0.5"	20	21	55	0.9	0.5	5	160	130	1,2,3
VAV-E101	PRICE	SDV	6	175	60	60	0.5"	20	21	55	1.5	0.5	5	160	130	1,2,3
VAV-E116	PRICE	SDV	6	110	40	40	0.5"	20	21	55	1.0	0.5	5	160	130	1,2,3
VAV-E117	PRICE	SDV	6	110	40	40	0.5"	20	21	55	1.0	0.5	5	160	130	1,2,3
VAV-E129	PRICE	SDV	6	190	60	60	0.5"	20	21	55	1.5	0.5	5	160	130	1,2,3
VAV-E201	PRICE	SDV	6	175	60	60	0.5"	20	21	55	1.8	0.5	5	160	130	1,2,3
VAV-E216	PRICE	SDV	6	115	40	40	0.5"	20	21	55	1.2	0.5	5	160	130	1,2,3
VAV-E217	PRICE	SDV	6	115	40	40	0.5"	20	21	55	1.2	0.5	5	160	130	1,2,3
VAV-E227	PRICE	SDV	6	140	50	50	0.5"	20	21	55	1.5	0.5	5	160	130	1,2,3

REMARKS:
1. SOUND DATA SHALL BE TAKEN FROM ARI STANDARDS 880 (LATEST PUBLISHED DATA @ 1.5" DELTA P.)
2. EXT. S.P. INCLUDES A COIL APD.
3. COIL CAPACITIES ARE BASED ON 70% WATER/30% PROPYLENE GLYCOL.

FAN SCHEDULE

2

FAN NO.	MANUF.	MODEL NO.	TYPE	CFM	S.P.	RPM	TIP SPEED	MOTOR HP	BHP	ELEC. VOLTS	PH	SONES	OPER. WT. (LBS)	REMARKS
EF-A103	GREENHECK	GB-220	BELT DRIVE, PRV	3,885	0.75	741	---	1	0.88	460	3	12.7	130	1,2,3
EF-B104	GREENHECK	GB-120	BELT DRIVE, PRV	1,000	0.3	1033	---	1/4	0.13	115	1	6.9	60	1,2,8
EF-B106	GREENHECK	GB-120	BELT DRIVE, PRV	1,000	0.3	1033	---	1/4	0.13	115	1	6.9	60	1,2,3
EF-B115	GREENHECK	SP-B90	DD, CEILING	75	0.25	700	---	20W	0.01	115	1	1.3	10	7
EF-B120	GREENHECK	GB-110-10	BELT DRIVE, PRV	3,025	0.25	1711	---	3/4	0.51	115	1	19.9	80	1,2,3
EF-C105	GREENHECK	GB-130-4	BELT DRIVE, PRV	1,000	0.35	961	3301	1/4	0.12	115	1	6.9	86	1,2,3
EF-C112	GREENHECK	FJI-12-BI-X	UTILITY SET, FUME	1,600	0.5	1744	5594	3/4	0.4	115	1	13.6	273	1,2,6
EF-C113	GREENHECK	FJI-24-BI-X	UTILITY SET, FUME	7,700	3.85	1445	9269	15	12.1	460	3	31	1074	1,2,6,9
EF-C113B	GREENHECK	GB-140-5	BELT DRIVE, PRV	1,750	0.35	1118	4281	1/2	0.31	115	1	9.7	145	1,2,3
EF-C116	GREENHECK	GB-200-10	BELT DRIVE, PRV	3,600	0.35	785	4396	1	0.6	460	3	11.0	184	1,2,3
EF-C123	GREENHECK	GB-120	BELT DRIVE, PRV	1,000	0.3	1033	---	1/4	0.13	115	1	6.9	60	1,2,3
EF-D110	GREENHECK	GB-098	BELT DRIVE, PRV	300	0.35	1029	---	1/6	0.06	115	1	4.7	---	1,2,3
EF-E122	GREENHECK	GB-130-4	BELT DRIVE, PRV	1,200	0.35	1061	3645	1/4	0.16	115	1	8.1	90	1,2
EF-E124	GREENHECK	FJI-12-BI-X	UTILITY SET, FUME	1,085	0.85	1525	4892	1/2	0.29	115	1	10.4	286	1,2,6
EF-E125	GREENHECK	GB-130-4	BELT DRIVE, PRV	1,200	0.35	1061	3645	1/4	0.16	115	1	8.1	90	1,2
EF-E127	GREENHECK	GB-130-4	BELT DRIVE, PRV	1,200	0.35	1061	3645	1/4	0.16	115	1	8.1	90	1,2
EF-E205	GREENHECK	GB-160-5	BELT DRIVE, PRV	2,000	0.5	956	4162	1/2	0.37	115	1	10.8	145	1,2,3
EF-E220	GREENHECK	GB-130-4	BELT DRIVE, PRV	1,200	0.35	1061	3645	1/4	0.16	115	1	8.1	90	1,2
EF-E222	GREENHECK	FJI-12-BI-X	UTILITY SET, FUME	1,085	0.85	1525	4892	1/2	0.29	115	1	10.4	286	1,2,6
EF-E223	GREENHECK	GB-130-4	BELT DRIVE, PRV	1,200	0.35	1061	3645	1/4	0.16	115	1	8.1	90	1,2
EF-E225	GREENHECK	GB-130-4	BELT DRIVE, PRV	1,200	0.35	1061	3645	1/4	0.16	115	1	8.1	90	1,2
EF-KH-1A	GREENHECK	CUBE-180-15	BELT DRIVE, PRV UPBLAST	3,100	1.0	1162	---	1.5	0.98	460	3	---	135	1,2,5
EF-KH-1B	GREENHECK	CUBE-180-15	BELT DRIVE, PRV UPBLAST	3,100	1.0	1162	---	1.5	0.98	460	3	---	135	1,2,5
TF-1A	GREENHECK	BSQ-140-15	BELT DRIVE, IN-LINE	2,790	0.75	1717	---	1.5	1.05	460	3	---	155	1,2,4
TF-1B	GREENHECK	BSQ-140-15	BELT DRIVE, IN-LINE	2,790	0.75	1717	---	1.5	1.05	460	3	---	155	1,2,4
TF-A103A	GREENHECK	BDF-100	BELT DRIVE, IN-LINE	1,400	0.35	656	---	1/3	0.24	115	1	6.6	100	1,2,3,4
TF-A103B	GREENHECK	BDF-100	BELT DRIVE, IN-LINE	1,550	0.35	680	---	1/3	0.29	115	1	7.2	100	1,2,3,4
TF-C113	GREENHECK	BSQ-300-20	BELT DRIVE, IN-LINE	7,700	0.5	568	4536	2	1.59	460	3	14.4	751	1,4
RF-6	GREENHECK	GB-420-VG-30	BELT DRIVE, PRV	12,000	0.5	388	4297	3	2.12	460	3	13.1	418	1,2,3,11
RF-7	GREENHECK	GB-330-VG-20	BELT DRIVE, PRV	6,600	0.5	408	3848	2	1.02	460	3	9.5	266	1,2,3,11
RF-8	GREENHECK	GB-540-VG-30	BELT DRIVE, PRV	14,000	0.5	274	3879	3	2.34	460	3	12.9	613	1,2,3,11
RF-9	GREENHECK	GB-540-VG-30	BELT DRIVE, PRV	21,000	0.25	280	3962	3	2.65	460	3	13.9	613	1,2,3,11
RF-10	GREENHECK	G-240-VG	DIRECT DRIVE, PRV	3,600	0.5	597	3828	2	0.53	208	1	8.6	250	2,3,10

REMARKS:
1. BELT DRIVE FAN, PROVIDE PREMIUM EFF. MOTOR, INTEGRAL ELECTRICAL DISCONNECT.
2. PROVIDE INSULATED ROOF CURB WITH BACKDRAFT DAMPER, BIRDSCREEN.
3. FAN CONTROLLED BY BAS.
4. PROVIDE ANTI-VIBRATION HANGING KIT.
5. PROVIDE GREASE CUP AND EXTENDED ROOF CURB WITH HINGED FAN BASE. CURB SHALL BE NON-VENTED. SEE DETAIL.
6. FAN SHALL BE EXPLOSION PROOF, HAVE A NON SPARKING WHEEL AND HI-PRO-Z COATING. PROVIDE DISCHARGE STACK WITH LOW PRESSURE DROP FLIP UP RAIN CAP. EXTEND 60" ABOVE ROOF.
7. PROVIDE SINGLE POINT POWER CONNECTION AND INTEGRAL ELECTRICAL DISCONNECT. ROUTE EXHAUST DUCT THRU ROOF TO GOOSENECK.
8. FAN CONTROLLED THERMOSTAT WITH MANUAL OVERRIDE SWITCH.
9. FAN CONTROLLED BY VFD.
10. DIRECT DRIVE FAN, PROVIDE ECM MOTOR, SINGLE POINT POWER CONNECTION AND INTEGRAL ELECTRICAL DISCONNECT.
11. PROVIDE ECM MOTOR.

KITCHEN HOOD SCHEDULE

HOOD NO.	MANUF.	MODEL NO.	TYPE	LENGTH	WIDTH	HEIGHT	CFM	STATIC (IN. W.C.)	EXHAUST COLLAR	MATERIAL	UL LISTING	MATCHED FAN	OPER. WT. (LBS)	REMARKS
KH-1A	GREENHECK	GXEW-186-S	I	186	66	24	3100	0.541	2(9X15)	430 S.S.	710	EF-KH-1A	550	ALL
KH-1B	GREENHECK	GXEW-186-S	I	186	66	24	3100	0.541	2(9X15)	430 S.S.	710	EF-KH-1B	550	ALL

REMARKS:
1. PROVIDE X-TRACTOR STAINLESS STEEL FILTER OR EQUAL, LEDLIGHT FIXTURES, 3" BACK AIR SPACE, GREASE GUTTER AND DRAIN.
2. PROVIDE WET CHEMICAL FIRE SUPPRESSION SYSTEM. SEE SPEC FOR MORE DETAIL.
3. PROVIDE 14"X198" STAINLESS STEEL FRONT MOUNTED PLENUM WITH PERFORATED GRILLE, 2790 CFM MAX CFM.
4. PROVIDE STAINLESS STEEL CEILING ENCLOSURE.
5. HOOD SHALL BE MOUNTED 80" AFF.
6. PROVIDE 12" UTILITY CABINET WITH ANSUL WET CHEMICAL ANSUL SYSTEM FIRE SUPPRESSION SYSTEM.
7. PROVIDE EXHAUST AIR BALANCING BAFFELS.
8. PROVIDE MOTOR CONTROL CENTER THAT CONTROLS EXHAUST FAN AND TRANSFER FAN. PROVIDE TEMPERATURE INTERLOCKS THAT ARE COMPLIANT WITH THE IMC FOR AUTOMATIC OPERATION OF FANS.

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project
HARRISBURG HS - 9TH GRADE ACADEMY

sheet contents
SCHEDULES

number 1002.2904.20
date 11-19-21
revision
drawn DK/DM checked Td

NO.	DATE	DESCRIPTION
1	12-6-21	ADDM M1
2	12-10-21	ADDM M2

8.12

12/10/2021 9:24:36 AM

WATER COOLED CHILLER SCHEDULE

UNIT NO.	MANUF.	MODEL NO.	TONS	EVAP. BUNDLE EWT	LWT	WPD	GPM	COND. BUNDLE EWT	LWT	WPD	GPM	ELECTRICAL VOLTS	PH	TOTAL KW	KW/TON	NPLV.IP KW/TON	MCA	MFS	SOUND (dB)	OPER. WT. (LBS)	REMARKS
CH-1-6A	DAIKIN	WMC048DDSNA	275	56	44	23.9	575	85	94.3	16.9	845	460	3	169.8	0.6174	0.3238	275	350	84	18,170	1,2,3
CH-1-6B	TRANE	RTHDUD1F	275	56	44	8.0	575	85	94.3	7.31	845	460	3	172.3	0.6208	0.3767	290	500	83	21,500	1,2,4
CH-1-6C	CARRIER	23XRV3537NQVAA51	275	56	44	25.3	576.1	85	94.3	15.2	845	460	3	183.7	0.6680	0.3595	303	500	84	18,170	1,2,5

REMARKS:
1. PROVIDE 65KA SCCR RATING AND SINGLE POINT POWER CONNECTION WITH DISCONNECT SWITCH.
2. CAPACITIES BASED ON 75% WATER/25% PROPYLENE GLYCOL.
3. PROVIDE UNDER ALTERNATE 6A.
4. PROVIDE UNDER ALTERNATE 6B.
5. PROVIDE UNDER ALTERNATE 6C.

1

BOILER SCHEDULE

BOILER NO.	MANUF.	MODEL NO.	AGA INPUT (MBH)	AGA OUTPUT (MBH)	OPERATING EFFICIENCY (%)	ELECTRICAL VOLT	PH	FLA	MCA	MOCP	OPERATING WEIGHT (LBS)	REMARKS
B-1	HURST	S1-125	5,231	4,184	80	460	3	9.7	---	---	10,200	1,2,3,4,6
B-2	HURST	S1-125	5,231	4,184	80	460	3	9.7	---	---	10,200	1,2,3,4,6
B-3	HURST	S1-125	5,231	4,184	80	460	3	9.7	---	---	10,200	1,2,3,4,5

REMARKS:
1. BOILER VENT SHALL DISCHARGE HORIZONTALLY OUT OF UNIT.
2. PROVIDE EMERGENCY SHUT-OFF MUSHROOM SWITCH.
3. PROVIDE BURNER INTAKE SOUND ATTENUATOR.
4. ELECTRICAL CONTRATOR TO PROVIDE DISCONNECTS.
5. FUTURE.
6. PROVIDE 5K SCCR RATING.

PUMP SCHEDULE

PUMP NO.	MANUF.	MODEL NO.	DESCRIPTION	STYLE	SIZE	GPM	MOTOR HEAD (FT)	MHP	BHP	RPM	ELEC. VOLT	PH	SUCT. SIZE	DISCH. SIZE	REMARKS
P-1	BELL & GOSSETT	S-80	PRIMARY HEATING	INLINE	5X5X9.5B	475	50	10	8.0	1200	460	3	6	6	1,2
P-2	BELL & GOSSETT	S-80	PRIMARY HEATING	INLINE	5X5X9.5B	475	50	10	8.0	1200	460	3	6	6	1,2
P-3	BELL & GOSSETT	E-1532	SECONDARY HEATING	BASE	4GC	815	150	50	38.4	1800	460	3	5	4	1,2
P-4	BELL & GOSSETT	E-1532	SECONDARY HEATING	BASE	4GC	815	150	50	38.5	1800	460	3	5	4	1,2
P-5	BELL & GOSSETT	E-1532	PRIMARY CHILLED	BASE	3BD	600	65	15	12.1	1800	460	3	4	3	1,2
P-6	BELL & GOSSETT	E-1532	PRIMARY CHILLED	BASE	3BD	600	65	15	12.1	1800	460	3	4	3	1,2,5
P-7	BELL & GOSSETT	E-1532	SECONDARY CHILLED	BASE	4GC	900	150	50	43.3	1800	460	3	5	4	1,2
P-8	BELL & GOSSETT	E-1532	SECONDARY CHILLED	BASE	4GC	900	150	50	43.4	1800	460	3	5	4	1,2,5
P-9	BELL & GOSSETT	E-1532	COOLING TOWER	BASE	5GB	850	45	15	12.8	1200	460	3	6	5	1,2
P-10	BELL & GOSSETT	E-1532	COOLING TOWER	BASE	5GB	850	45	15	12.8	1200	460	3	6	5	1,2,5
P-11	BELL & GOSSETT	PL-55	110 HW RECIRC	INLINE	---	35	25	2/5	---	3250	115	1	1	1	3
P-12	BELL & GOSSETT	PL-30	140 HW RECIRC	INLINE	---	12	15	1/12	---	2650	115	1	3/4	3/4	3
P-13	BELL & GOSSETT	PL-30	HW STORAGE TANK PUMP	INLINE	---	12	15	1/12	---	2650	115	1	3/4	3/4	---
P-14	BELL & GOSSETT	NRF-36	INFLOOR	INLINE	---	6	20	270W	---	3300	115	1	3/4	3/4	---
P-15	BELL & GOSSETT	NRF-36	INFLOOR	INLINE	---	6	20	270W	---	3300	115	1	3/4	3/4	---
P-16	BELL & GOSSETT	NRF-36	INFLOOR	INLINE	---	6	20	270W	---	3300	115	1	3/4	3/4	---
P-17	BELL & GOSSETT	NRF-36	INFLOOR	INLINE	---	6	20	270W	---	3300	115	1	3/4	3/4	---
P-18	BELL & GOSSETT	NRF-36	INFLOOR	INLINE	---	6	20	270W	---	3300	115	1	3/4	3/4	---
P-19	BELL & GOSSETT	NRF-36	INFLOOR	INLINE	---	6	20	270W	---	3300	115	1	3/4	3/4	---
P-20	BELL & GOSSETT	NRF-36	INFLOOR	INLINE	---	6	20	270W	---	3300	115	1	3/4	3/4	---
P-21	STANCOR	SE40-O/M-ELV	ELEVATOR SUMP	SUBMERS	---	50	11	0.4	---	---	115	1	---	---	4
P-22	ZOELLER	152	ELEVATOR DRAIN TILE	SUBMERS	---	25	25	0.4	---	---	115	1	---	---	---
P-23	BELL & GOSSET	PL-30	AHU-11 COIL	INLINE	---	22	8	1/12	---	2650	115	1	1 1/2	1 1/2	---

REMARKS:
1. PUMPS SHALL BE NON-OVERLOADING.
2. PROVIDE VFD.
3. BRONZE BODY.
4. OIL MINDER PUMP WITH CONTROL PANEL.
5. FUTURE

GAS FIRED WATER HEATER SCHEDULE

UNIT NO.	MANUF.	MODEL NO.	INPUT (MBH)	STORAGE TANK (GAL)	EFF.	RECOVERY GPH @ 90°F	ELECTRICAL VOLT	PH	AMPS	REMARKS
WHTR-1	HTP	PH199-19	199	119	96	263	120	1	8	1,2
WHTR-2	HTP	PH199-19	199	119	96	263	120	1	8	1,2
WHTR-3	HTP	PH199-19	199	119	96	263	120	1	8	1,2,3

REMARKS:
1. ASME T & P RELIEF VALVE.
2. DIRECT VENT/SEALED COMBUSTION.
3. FUTURE

COOLING TOWER SCHEDULE

UNIT NO.	MANUF.	MODEL NO.	MBH CAP	AMB. AIR DB	WB	TOWER WATER FLOW EWT	LWT	GPM	AIRFLOW CFM	SOUND (dB)	FAN HP	ELECTRICAL HEAT	ELECTRICAL VOLT	PH	OPERATING WEIGHT (LBS)	REMARKS
CT-1	BAC	S3E-8518-05L	4,123	95	78	95	85	825	77,350	95	15	(2) 6KW	460	3	15,170	1,2,3,4
CT-2	BAC	S3E-8518-05L	4,123	95	78	95	85	825	77,350	95	15	(2) 6KW	460	3	15,170	1,3,4,5

REMARKS:
1. SEE SPECIFICATION FOR MORE DETAIL.
2. PROVIDE AMIAD/PEP MODEL TC-2"X(3)X4-BP1-GRN OPAL DISC FILTRATION SYSTEM OR EQUAL. 7.5 HP FILTRATION PUMP. PROVIDE 5K SCCR RATING ON FILTRATION PUMP.
3. PROVIDE VFD.
4. COOLING TOWER MAKE-UP WATER VALVE SHALL BE LOCATED INSIDE THE BUILDING.
5. FUTURE.

REGISTER GRILLE & DIFFUSER SCHEDULE

SYMBOL	MANUF.	CONSTR MAT"L	MODEL NO.	MAX CFM	OVERALL SIZE	THROAT SIZE	NC	THROW	TOTAL PD (IN.W.G.)	FRAME	PATTERNS	REMARKS
D1	KRUEGER	S	PLQ	230	24/24	8"ø	26	12	0.08	LAY-IN/SURFACE	4-WAY	---
D2	KRUEGER	S	PLQ	430	24/24	10"ø	26	17	0.08	LAY-IN/SURFACE	4-WAY	---
D3	KRUEGER	S	PLQ	575	24/24	12"ø	30	20	0.10	LAY-IN/SURFACE	4-WAY	---
D4	KRUEGER	A	56500	450	24/24	12"ø	25	24	0.07	LAY-IN	PERFORATED	---
D5	KRUEGER	S	PLQ	100	12/12	6"ø	---	8	0.08	LAY-IN	4-WAY	---
D6	KRUEGER	S	PLQ	110	24/24	6"ø	26	9	0.08	LAY-IN	4-WAY	---
G1	KRUEGER	A	EGC5	620	24/12	22/10	25	---	0.03	LAY-IN/SURFACE	1/2" GRID	---
G2	KRUEGER	A	EGC5	1400	24/24	22/22	15	---	0.03	LAY-IN/SURFACE	1/2" GRID	---
G3	KRUEGER	A	EGC5	150	10/10	8/8	---	---	0.02	LAY-IN/SURFACE	1/2" GRID	---
G4	KRUEGER	A	EGC5	300	18/10	16/8	---	---	0.02	SURFACE	1/2" GRID	---
G5	KRUEGER	S	S480	[illegible]	[illegible]	[illegible]	32	[illegible]	0.03	SURFACE	SD	1
G6	KRUEGER	S	S480	2800	50/26	48/24	29	---	0.04	SURFACE	SD	1
G7	KRUEGER	S	480	6000	48/32	46/30	34	101	0.07	SURFACE	SD	1
G8	KRUEGER	S	S80	965	26/18	24/16	19	---	0.02	SURFACE	SD	---
R1	KRUEGER	S	880	770	26/10	24/8	26	51	0.07	SURFACE	DD	---
R2	KRUEGER	S	880	250	10/10	8/8	22	29	0.08	SURFACE	DD	1
R3	KRUEGER	S	880	525	18/10	16/8	25	42	0.08	SURFACE	DD	1
R4	KRUEGER	S	880	7700	44/44	42/42	35	161	0.07	SURFACE	DD	1

LEGEND:
R - REGISTER
G - GRILLE
D - DIFFUSER

SD - SINGLE DEFLECTION
DD - DOUBLE DEFLECTION

A - ALUMINUM CONSTRUCTION.
S - STEEL CONSTRUCTION.

GENERAL NOTES:
1. THROWS ARE BASED ON TERMINAL VELOCITIES AT 50 FPM.
2. NC VALUES ARE BASED UPON A 10dB ROOM ATTENUATION.
3. SEE SPECIFICATIONS FOR OPPOSED BLADE DAMPER REQUIREMENTS.

REMARKS:
1. COLOR BY ARCHITECT.

LOUVER SCHEDULE

LVR NO.	MANUF.	MODEL NO.	SIZE W X H X D	FREE AREA S.F.	CFM	VEL FPM	PD IN. WG	REMARKS
LVR-1	GREENHECK	ESD-635	84X132X6	50.9	---	---	---	1
LVR-2	GREENHECK	ESD-635	116X108X6	56.8	38,000	665	0.07	1
LVR-3	GREENHECK	ESD-635	174X72X6	54.4	27,200	500	0.04	1
LVR-4	GREENHECK	ESD-635	72X72X6	22.4	11,000	491	0.036	1
LVR-5	GREENHECK	ESD-635	102X72X6	31.9	16,000	502	0.038	1
LVR-6	GREENHECK	ESD-635	102X72X6	31.9	16,000	502	0.038	1
LVR-7	GREENHECK	ESD-635	144X72X6	44.9	22,000	490	0.036	1
LVR-8	GREENHECK	ESD-635	126X72X6	39	20,000	513	0.039	1
LVR-9	GREENHECK	ESD-635	180X72X6	56.3	28,000	497	0.037	1
LVR-10	GREENHECK	ESD-635	48X60X6	12.19	2,500	199	0.01	1
LVR-11	GREENHECK	ESD-635	120X60X6	---	---	---	---	1,2

REMARKS:
1. COLOR BY ARCHITECT.
2. LOUVER USED AS FUTURE DUCT ROUTING BLOCK-OUT. CAP AND INSULATE WITH 2" RIGID INSULATION AND SEAL WATER TIGHT.

CABINET UNIT HEATER SCHEDULE

UNIT NO.	MANUFACTURER	UNIT SIZE	TYPE	INTAKE LOCATION	DISCHARGE LOCATION	CFM	FAN MOTOR(S) RPM	FAN HP-1	FAN HP-2	V/PH	HEATING CAPACITY MBH	EWT	LWT	GPM	WPD	REMARKS
CUH-A103	BEACON/MORRIS	06	SRWI	FT	FB	630	1050	1/10	---	115/1	29.7	160	130	2.8	5'	1,2
CUH-B103	BEACON/MORRIS	08	SRWI	FT	FB	845	1050	1/15	1/10	115/1	54.2	160	130	2.8	5'	1,2,3
UH-A101	BEACON/MORRIS	HB-72	HP	R	F	1100	1000	1/20	---	115/1	32.3	160	130	3.1	5'	1,4
UH-B118	BEACON/MORRIS	HB-72	HP	R	F	1100	1000	1/20	---	115/1	32.3	160	130	3.1	5'	1,4

MODEL TYPE: F - FLOOR; FI - FLOOR INVERTED FLOW; W - WALL; WI - WALL INVERTED FLOW; FRW - FULLY RECESSED WALL
FRWI - FULLY RECESSED WALL INVERTED FLOW; SRW - SEMI RECESSED WALL; SRWI - SEMI RECESSED WALL INVERTED FLOW
C - CEILING; RC - RECESSED CEILING; HP - HORIZONTAL PROPELLER UNIT

LOCATIONS: F - FRONT; R - REAR; B - BOTTOM; T - TOP

REMARKS:
1. HEATING CAPACITY BASED ON 70% WATER/ 30% PROPYENE GLYCOL.
2. PROVIDE TAMPER RESISTANT FASTENERS FOR ACCESS DOOR.
3. UNIT SHALL HAVE TWO ROW COIL.
4. UNIT HEATER HUNG FROM STRUCTURE.

PLUMBING FIXTURE SCHEDULE

FIXTURE SYMBOL	TYPE	MANUFACTURER	MODEL NO.	TRIM	SUPPLIES	WASTE	REMARKS
WC-1	WATER CLOSET FLUSH VALVE FLOOR MOUNTED ELONG	AMERICAN STANDARD	2234.001	SLOAN 8111-1.6	---	---	CHURCH 9500SSCT SEAT BATTERY OPERATOR
WC-2	WATER CLOSET FLUSH VALVE FLOOR MOUNTED ELONG HANDI	AMERICAN STANDARD	3043.001	SLOAN 8111-1.6	---	---	CHURCH 9500SSCT SEAT BATTERY OPERATOR
WC-3	WATER CLOSET FLUSH VALVE WALL HUNG	AMERICAN STANDARD	2634.101	SLOAN 152-1.6 ES-S	---	---	CHURCH 9500SSCT SEAT JOSAM SERIES 12000 CARRIER MNT. HEIGHT ON ARCH. PLANS BACK SPUD, SOLENOID OPERATOR
UR-1	URINAL WASHOUT WALL HUNG	SLOAN	SU-7019	SLOAN 195-1-ES-S	---	---	JOSAM SERIES 17000 CARRIER MNT. HEIGHT ON ARCH. PLANS BACK SPUD, SOLENOID OPERATOR
L-1	LAVATORY WALL HUNG HANDI	AMERICAN STANDARD	0355.421	ZURN Z86100-XL-16M SINGLE HOLE LAWLER TMM-1070	BRASSCRAFT OCR19Z	GRID DRAIN	17 GA. C.P. P-TRAP JOSAM SERIES 17000 CARRIER MNT. HEIGHT ON ARCH. PLANS W/TRUBRO WASTE & WATER PIPE PROTECTOR, OFFSET WASTE ARM
L-2	LAVATORY 3-PERSON SEMICIRCULAR	WILLOUGHBY INDUSTRIES	WAF-3603- PPB1	---	BRASSCRAFT OCR19Z	---	17 GA. C.P. P-TRAP MNT. HEIGHT ON ARCH. PLANS
L-3	LAVATORY 3-PERSON	WILLOUGHBY INDUSTRIES	WAW-2333- PPB1	---	BRASSCRAFT OCR19Z	---	17 GA. C.P. P-TRAP MNT. HEIGHT ON ARCH. PLANS
L-4	LAVATORY WALL HUNG HANDI KITCHEN	AMERICAN STANDARD	0355.421	CHICAGO 895-317 LAWLER TMM-1070	BRASSCRAFT OCR19Z	GRID DRAIN	17 GA. C.P. P-TRAP JOSAM SERIES 17000 CARRIER MNT. HEIGHT ON ARCH. PLANS W/TRUBRO WASTE & WATER PIPE PROTECTOR, OFFSET WASTE ARM
MSK	MOP SINK FLOOR MOUNTED	FIAT	TSBC1610 -832AA -889CC	ZURN Z843M1-RC-CS W/VACUUM BREAKER	---	---	CW HB MTD 5'-0" AFF
SK-1	SINK-STAINLESS STEEL, SINGLE COMPARTMENT	ELKAY	PSR-1919	CHICAGO 2302	BRASSCRAFT OCR19Z	LK-35 STRAINER	17 GA. C.P. P-TRAP
SK-2	SINK-STAINLESS STEEL DOUBLE COMPARTMENT	ELKAY	PSR-3319	CHICAGO 2302 GN8AJKABCP SPOUT	BRASSCRAFT OCR19Z	LK-35 STRAINER LK-53 CONT WASTE	17 GA. C.P. P-TRAP
SK-3	SINK-STAINLESS STEEL, SINGLE COMPARTMENT ART ROOM	ELKAY	PSR-1919	CHICAGO 2302	BRASSCRAFT OCR19Z	LK-35 STRAINER	STRIEM "SIDEKICK" SOLIDS INTERCEPTOR 17 GA. C.P. P-TRAP
SK-4	SINK-STAINLESS STEEL, SINGLE COMPARTMENT HANDI, ART ROOM	ELKAY	LRAD-1919 -OCD	CHICAGO 2302	BRASSCRAFT OCR19Z	LK-35 STRAINER	STRIEM "SIDEKICK" SOLIDS INTERCEPTOR MAX AFF IN REAR OF CASEWORK, OFFSET WASTE, TRUBRO WASTE & WATER & INTERCEPTOR PROTECTOR 17 GA. C.P. P-TRAP
SK-5	UTILITY SINK WALL HUNG	MUSTEE	28CF	---	BRASSCRAFT OCR19Z	STRAINER	17 GA. C.P. P-TRAP
SK-6	SINK-STAINLESS STEEL DOUBLE COMPARTMENT FACS LAB	ELKAY	PSR-3319	CHICAGO 2302 GN8AJKABCP SPOUT	BRASSCRAFT OCR19Z	LK-35 STRAINER LK-53 CONT WASTE	17 GA. C.P. P-TRAP
SK-7	SINK-STAINLESS STEEL DOUBLE COMPARTMENT HANDI FACS LAB	ELKAY	LRAD-3319 -OCD	CHICAGO 2302 GN8AJKABCP SPOUT	BRASSCRAFT OCR19Z	LK-35 STRAINER LK-53 CONT WASTE	17 GA. C.P. P-TRAP OFFSET WASTE ARM, TRUBRO WASTE & WATER PIPE PROTECTOR
SK-8	SINK-STAINLESS STEEL DOUBLE COMPARTMENT FACS LAB/, DISHWASHER	ELKAY	PSR-3319	CHICAGO 2302 GN8AJKABCP SPOUT	BRASSCRAFT OCR19Z	LK-35 STRAINER LK-53 CONT WASTE	17 GA. C.P. P-TRAP PROVIDE WASTE & WATER CONNECTIONS TO DISHWASHER
SK-9	SINK-INTEGRAL BOWL SCIENCE SINK	BY OTHERS	---	CHICAGO 930-369	BRASSCRAFT OCR19Z	BASKET STRAINER	ACID RESISTANT P-TRAP
SK-10	SINK-INTEGRAL BOWL SCIENCE SINK	BY OTHERS	---	CHICAGO 930-369	BRASSCRAFT OCR19Z	BASKET STRAINER	ACID RESISTANT P-TRAP PROVIDE WASTE & WATER CONNECTIONS TO DISHWASHER
SH-1	SHOWER	TILE	---	BRADLEY WS-1F-6'- AST-SX15-ST-RSD-VS	---	2" FLOOR DRAIN	ALL METAL TRIM, THERMOSTATIC MIXING VALVE, FIXED SHOWER HEAD
SH-2	SHOWER - ADA	TILE	---	BRADLEY HN200-6'- AST-(2)SX15-ST-RSD -VS	---	2" FLOOR DRAIN	ALL METAL TRIM, THERMOSTATIC MIXING VALVE, 2 FIXED SHOWER HEADS
ESH-1	COMBINATION EYEWASH & SHOWER HANDI	BRADLEY	S19- 120SSBF S19-224SC	---	---	---	17 GA. C.P. P-TRAP, MIXING VALVE, LAWLER MODEL NO. 911 E INLET CHECK VALVES
EWC-1	ELECTRIC WATER COOLER WALL MTD DUAL HEIGHT W/ BOTTLE FILL	ELKAY	LZSTL8WSSP	---	BRASSCRAFT OCR19Z	---	17 GA. C.P. P-TRAP MNT. HEIGHT ON ARCH. PLANS
CW-1	CAN WASH FAUCET & FSK	T&S BRASS	B-0167	---	---	---	FLOOR SINK WITH BUCKET JOSAM MODEL #37830-69
UB-1	DRAIN BOX	SIOUX CHIEF	696-3	---	---	---	P-TRAP
UB-2	WASHER BOX	SIOUX CHIEF	696- G2313MF	---	---	---	P-TRAP, SHOCK ABSORBERS
UB-3	ICEMAKER BOX	SIOUX CHIEF	696- G1010MF	---	---	---	MOUNT AT 36" AFF SHOCK ABSORBERS
GT-1	GAS TURRET, DOUBLE	CHICAGO	982-909- 957-3KAGV	---	---	---	GAS SERVICE

REMARKS :
1. HANDICAPPED FLUSH VALVES SHALL BE ADA COMPLIANT.
2. FLUSH VALVES SHALL HAVE A VANDAL RESISTANT STOP CAP.
3. FLUSH VALVE ESCUTCHEONS SHALL BE CHROME PLATED WITH HEAVY WALL THICKNESS AND SET SCREW.
4. PROVIDE & INSTALL TRANSFORMERS AS RECOMMENDED BY MFG TO SERVE FIXTURES IN PLUMBING CHASE. PROVIDE & INSTALL INTERCONNECTING LOW VOLTAGE WIRING AND CONNECTIONS TO SENSORS.
5. COORDINATE FAUCET/ANTI-ROTATE REQUIREMENTS WITH COUNTERTOP MFG/GENERAL CONTRACTOR.

HEATING COIL SCHEDULE

COIL NO.	SIZE	CFM	EAT	APD (IN W.G.)	MBH	GPM	WPD	EWT	LWT	REMARKS
HC-B116	12x12	160	55	0.25	5.5	0.5	0.1	160	130	1

REMARKS:
1. COIL CAPACITIES ARE BASED ON 70% WATER/30% PROPYLENE GLYCOL.

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project HARRISBURG HS - 9TH GRADE ACADEMY

sheet contents SCHEDULES

number 1002.2904.20
date 11-19-21
revision
drawn DK/DM checked Td

NO.	DATE	DESCRIPTION
1	12-10-21	ADDM M2

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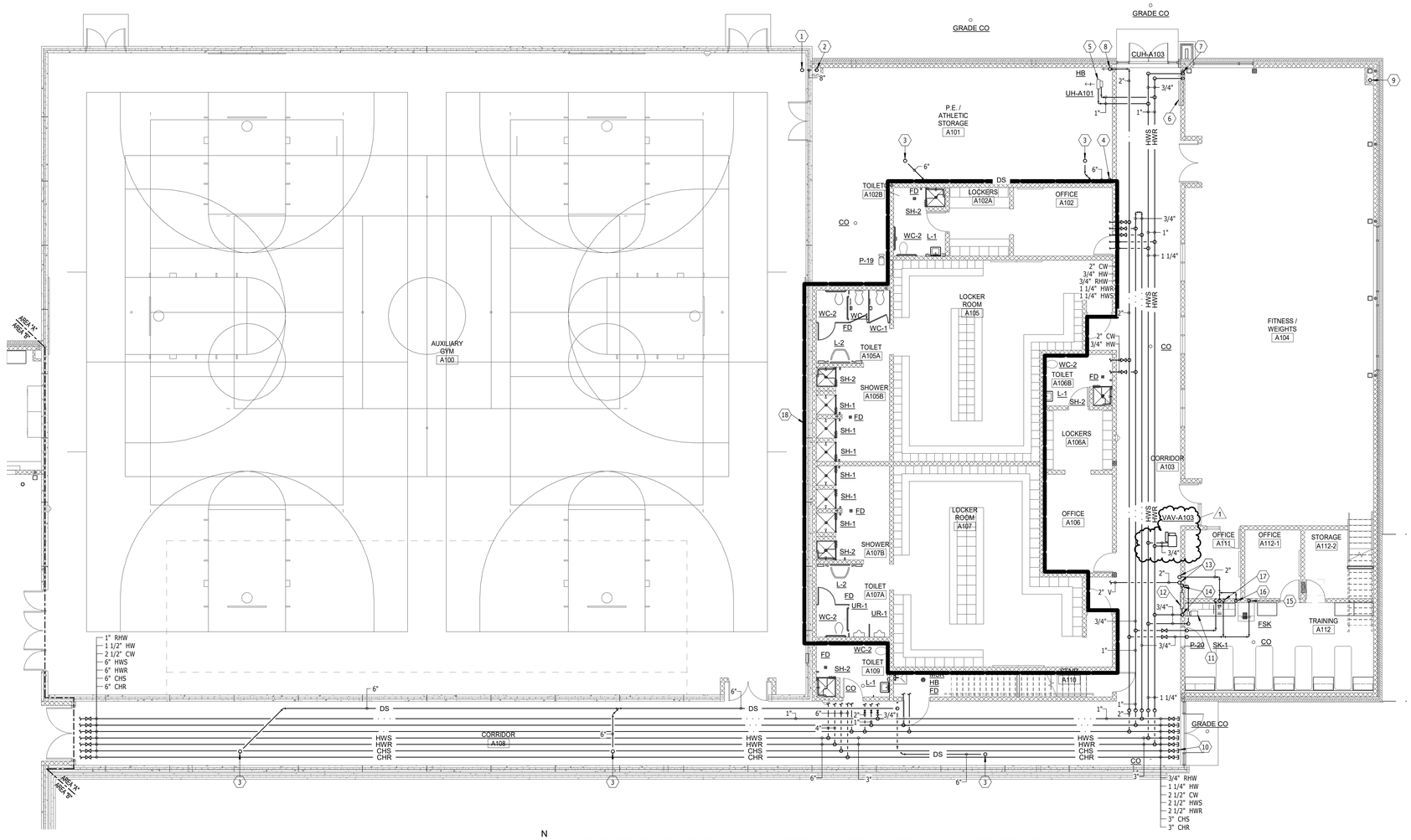
GENERAL SHEET NOTES

A. THE CEILING SPACE AVAILABLE REQUIRES COORDINATION WITH OTHER TRADES. THE CONTRACTORS SHALL PROVIDE ALL OFFSETS AND RELOCATE AS REQUIRED TO COORDINATE THE INSTALLATION OF ALL MATERIALS AND EQUIPMENT WITH OTHER TRADES.

PLUMBING & HEATING NOTES

1 8" DS UP
2 8" DS DN W/CO 24" AFF
3 6" DS UP TO 6" RD
4 6" DS DN W/CO 24" AFF
5 HYDRONIC PROP TYPE UNIT HEATER HUNG FROM STRUCTURE.SEE UNIT HEATER PIPING DETAIL
6 HYDRONIC CABINET UNIT HEATER. SEE CABINET UNIT HEATER PIPING DETAIL
7 3/4" HWS & 3/4" HWR DN TO CUH
8 2" CW CAPPED 24" BELOW GRADE FOR FUTURE CONCESSION BUILDING
9 6" DS UP/DN W/CO 24" AFF
10 PIPING CAPPED FOR FUTURE ADDITION
11 INFLOOR HEAT ZONE PUMP. SEE INFLOOR HEAT PUMP PIPING DETAIL
12 INFLOOR HEAT ZONE #7 PIPING MANIFOLD.. SEE INFLOOR HEAT MANIFOLD PIPING DETAIL.
13 2" V UP
14 3/4" HWS & 3/4" HWR DN TO INFLOOR HEAT MANIFOLD
15 1/2" CW DN TO ICE MAKER WITH EXPOSED ESCUTHEON & SHUTOFF VALVE
16 2" V DN
17 1/2" HW DN, 1 1/2" V/2" W DN, 1/2" CW DN
18 MECHANICAL PENETRATIONS INTO OR OUT OF A STORM SHELTER SHALL BE PROTECTED FROM INCOMING PROJECTILES BY CONCRETE BAFFLES PER ICC 500. VERIFY AND COORDINATE BAFFLE/OPENING DIMENSIONS W/STRUCTURAL.



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FIRST FLOOR PLAN - AREA A - PLUMBING & HEATING

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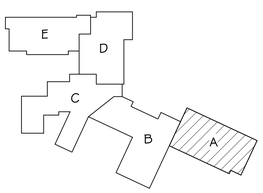

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project
HARRISBURG HS - 9TH GRADE ACADEMY

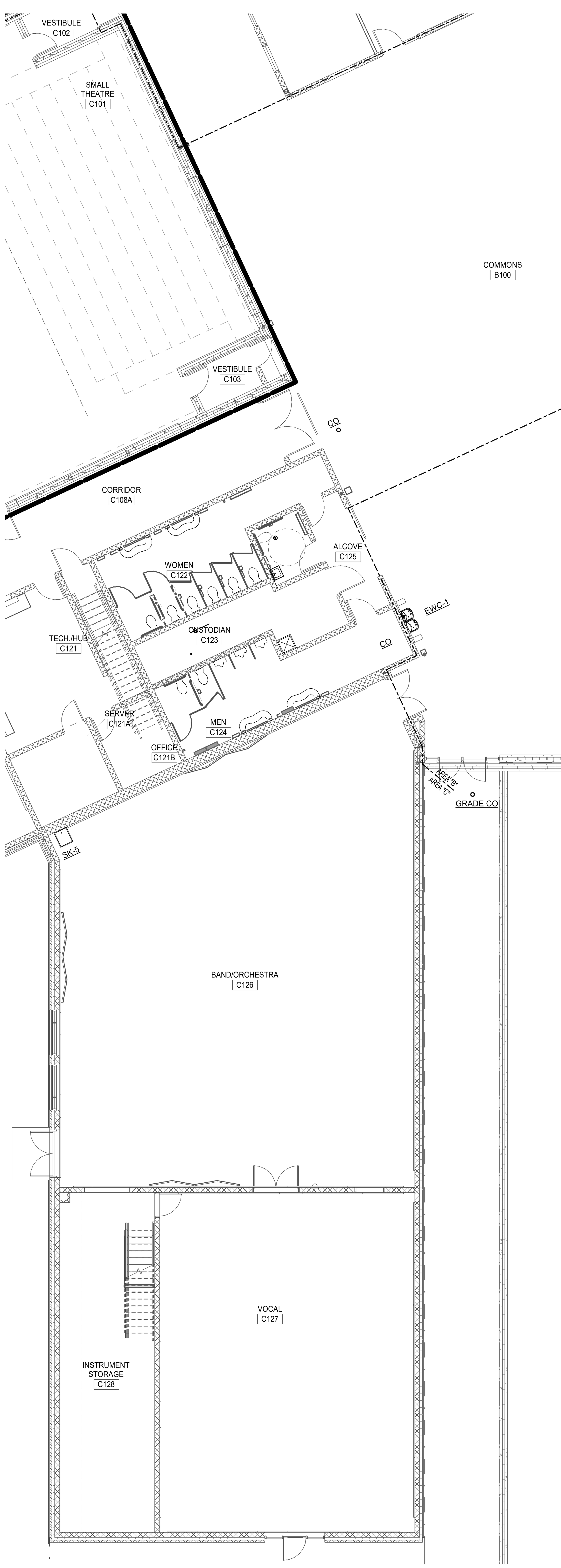
FIRST FLOOR PLAN - AREA A - PLUMBING & HEATING

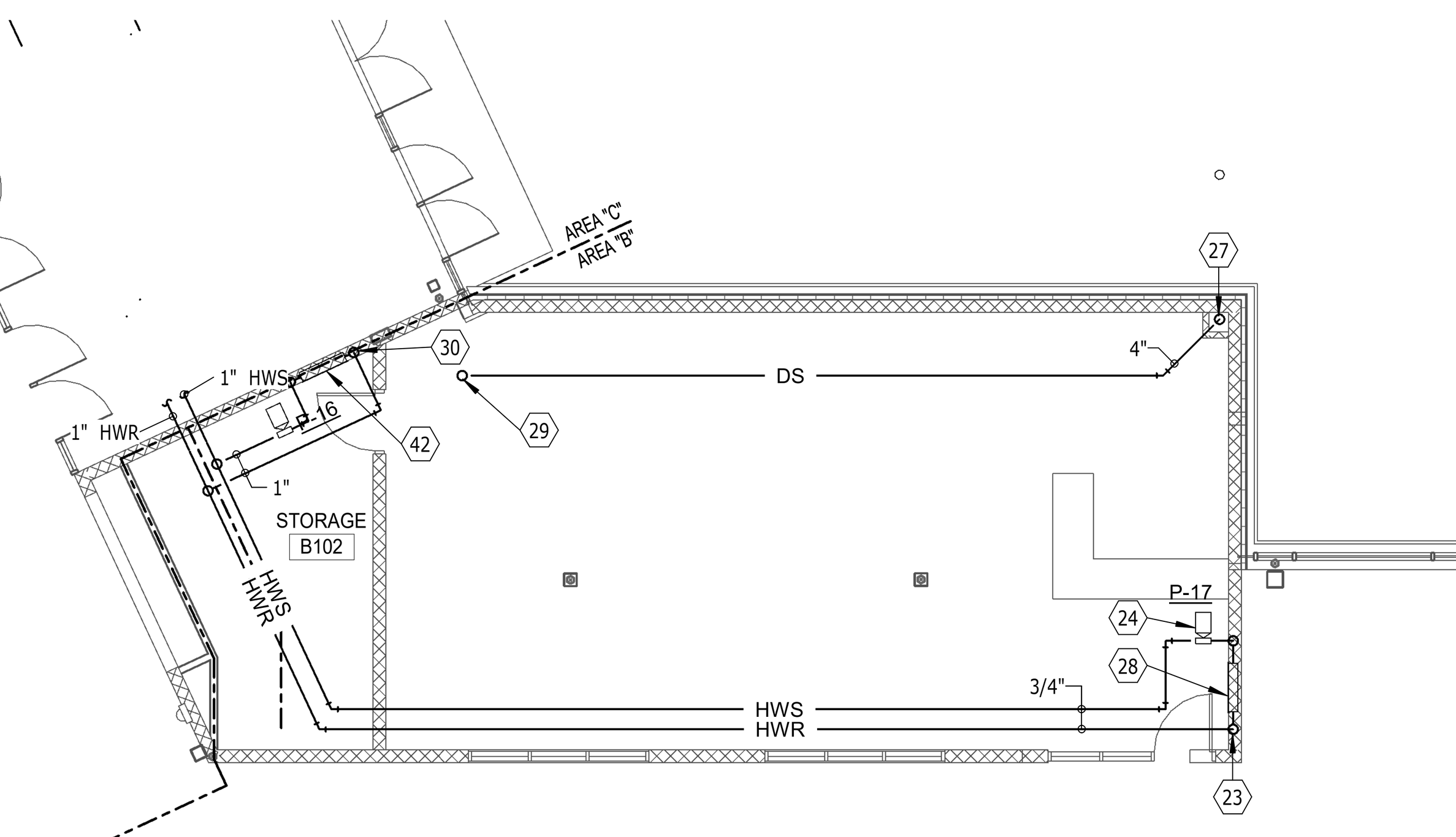
number 1002.2904.20
date 11-19-21
revision
drawn DWM checked Td

NO.	DATE	DESCRIPTION
1	12-10-21	ADDM #2

8.20-1A

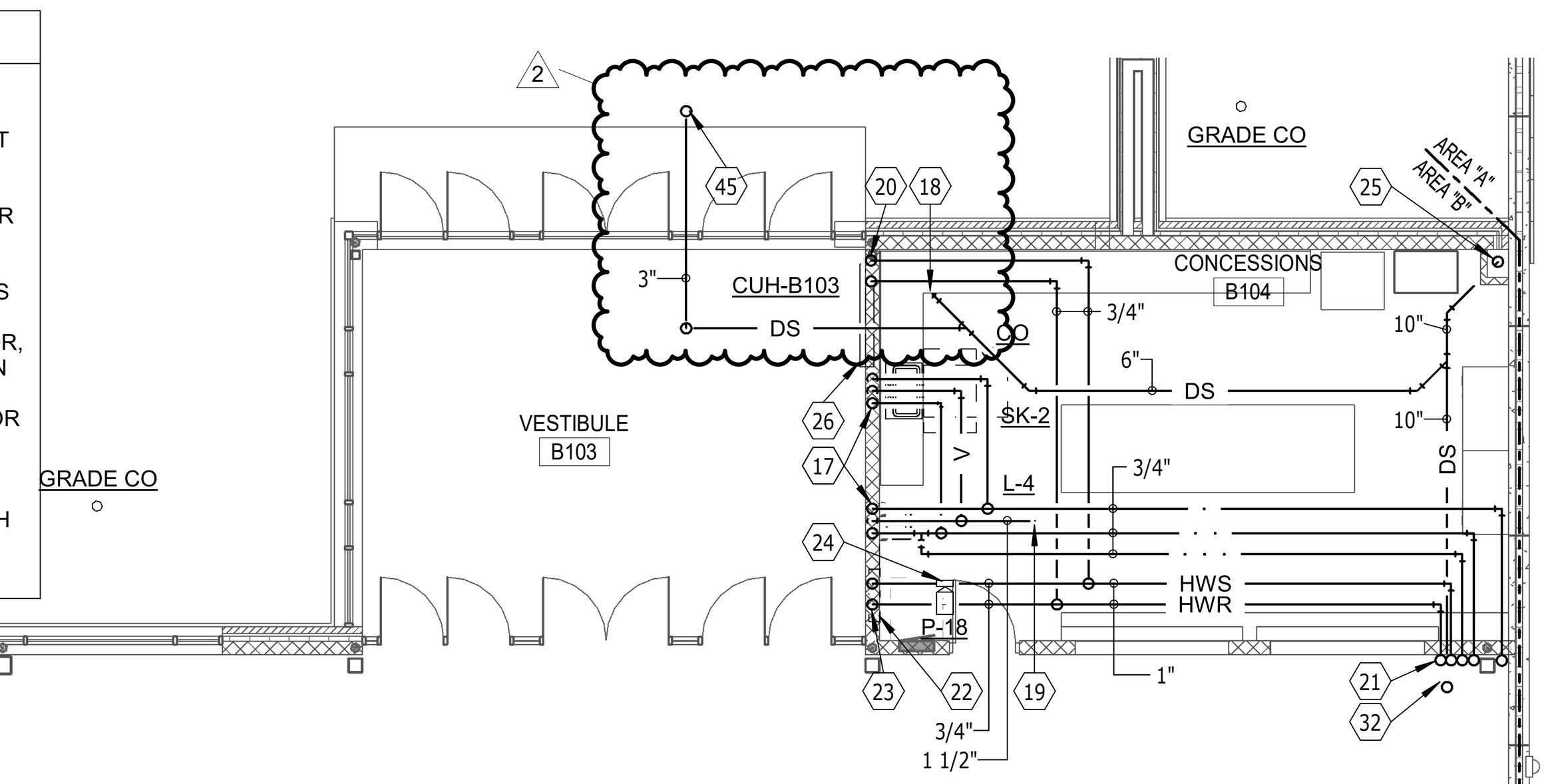
12/9/2021 5:12:39 PM

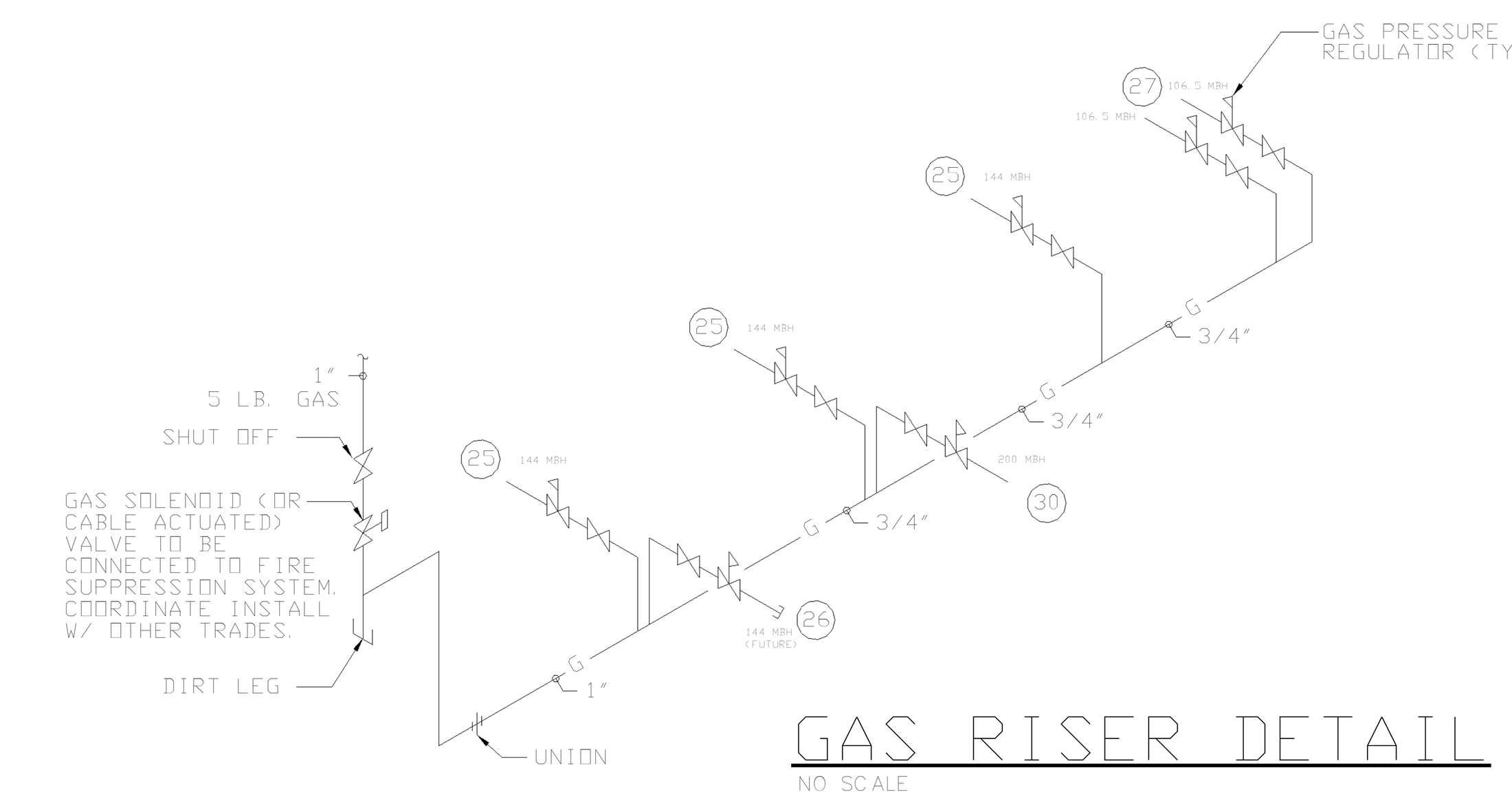




GENERAL NOTES - KITCHEN

1. PLUMBING CONTRACTOR TO PROVIDE ALL NECESSARY SHUT-OFF VALVES, PRESSURE REGULATORS, FLOW CONTROLS, BACKFLOW PREVENTERS, HAMMER ARRESTORS, ETC. FOR EQUIPMENT INSTALLED AHEAD OF EQUIMPENT CONTROL VALVE, AS REQUIRED PER LOCAL CODES, UNLESS OTHERWISE SPECIFIED.
2. ALL INDIRECT WASTES FOR KITCHEN EQUIPMENT SHALL BE EXTEDED TO FLOOR DRAINS/SINKS BY THE PLUMBING CONTRACTOR UNLESS OTHERWISE NOTED.
3. THE KITCHEN EQUIPMENT CONTRACTOR IS RESPONSIBLE FOR SETTING EQUIPMENT IN PLACE. FINAL CONNECTIONS AND INTERCONNECTIONS FOR THIS EQUIPMENT IS THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR.
4. SINK FAUCETS AND WASTES FURNISHED BY KITCHEN EQUIPMENT CONTRACTOR, INSTALLED BY PLUMBING CONTRACTOR. SINK TAILPIECES, P-TRAPS, AND DRAIN CONNECTIONS FURNISHED AND INSTALLED BY PLUMBING CONTRACTOR.
5. HEALTH CODES REQUIRE THAT ALL PLUMBING BE ENCLOSED IN WALL OR FLOOR AND THAT EXPOSED PIPING RUNS BE AS SHORT AS POSSIBLE. EXPOSED HORIZONTAL PIPING MUST BE AT LEAST 6" ABOVE THE FLOOR AND AT LEAST 1" OFF THE WALL. ALL EXPOSED PIPING SHALL BE CHROME PLATED.
6. ALL EXPOSED PIPING PENETRATING FINISHED WALLS SHALL BE EQUIPPED WITH WALL ESCUTCHEONS.
7. ALL HW IN KITCHEN AREA IS 140-DEG F, UNLESS OTHERWISE NOTED.





EQUIPMENT SCHEDULE

ITEM	QTY	DESCRIPTION	COLD WATER SIZE (IN)	HOT WATER SIZE (IN)	WATER ROUGH-IN HEIGHT (IN)	INDIRECT DRAIN SIZE (IN)	DIRECT DRAIN SIZE (IN)	DRAIN ROUGH-IN HEIGHT (IN)	GAS CONNECTION SIZE (IN)	GAS SUPPLY BTU'S	GAS ROUGH-IN HEIGHT (IN)	EQUIPMENT REMARKS
3	1	HOT FOOD SERVING COUNTER	-	-	-	1	-	-	-	-	-	EXTEND INDIRECT DRAIN TO FLOOR SINK
9	1	HOT FOOD SERVING COUNTER	-	-	-	1	-	-	-	-	-	EXTEND INDIRECT DRAIN TO FLOOR SINK
14	2	HOT AND COLD PAN SERVING COUNTER	-	-	-	1	-	-	-	-	-	EXTEND INDIRECT DRAIN TO FLOOR SINK
25	3	DOUBLE DECK CONVECTION OVEN	-	-	-	-	-	-	3/4	144,000 EA.	32	UTILITIES LISTED ARE FOR ONE DOUBLE DECK OVEN, THERE ARE 3 DOUBLE DECK OVENS TOTAL, GAS HOSES BY SECTION 11400
26	1	FUTURE, DOUBLE DECK CONVECTION OVEN	-	-	-	-	-	-	3/4	144,000 EA.	32	FUTURE ITEM, UTILITIES LISTED ARE FOR ONE DOUBLE DECK OVEN
27.A	1	DOUBLE STACKED COMBI OVENS W/ INSTALLATION KIT	2@3/4	-	-	2 @ 2	-	-	2 @ 3/4	2 @ 106,500	32	ONE DOUBLE STACKED COMBI OVEN, EXTEND FILTERED WATER FROM ITEM 27.B FOR ONE WATER CONNECTION PER DECK, EXTEND INDIRECT COPPER DRAIN TO FLOOR SINK FROM EACH DECK, TWO GAS HOSES BY SECTION 11400.
27.B	1	WATER TREATMENT SYSTEM	3/4	-	48	-	-	-	-	-	-	EXTEND FILTERED WATER TO WATER INLET ON ITEM 27.A. ONE CONNECTION PER DECK.
28	4	(BY OTHERS) HAND SINKS	1/2	1/2	18	-	2	24	-	-	-	VERIFY REQUIREMENTS WITH SUPPLIER
29	1	KETTLE WITH DOUBLE PANTRY FAUCET AND STAND WITH DRAIN DRAWER	1/2	1/2	24	1-1/4	-	-	-	-	-	EXTEND INDIRECT DRAIN FROM DRAWER DRAIN PAN TO FLOOR SINK
30	1	BRAISING PAN WITH DOUBLE PANTRY FAUCET	1/2	1/2	24	-	-	-	3/4	200,000	32	GAS HOSE BY SECTION 11400
31	1	FLOOR TROUGH	-	-	-	-	4	UFB	-	-	-	SEE FSEC SPEC. SHEET FOR DRAIN CONNECTION AND INSTALLATION REQUIREMENTS FOR RECESSED FLOOR TROUGH
32	(1 LOT)	(BY OTHERS) EXHAUST HOOD, FANS, MAKE-UP AIR AND FIRE SUPPRESSION SYSTEM	-	-	-	-	-	-	-	-	-	REVIEW UTILITY REQUIREMENTS WITH SUPPLIERS
38	1	WORK TABLE WITH DOUBLE SINK, FAUCET, LEVER DRAIN & WALL MOUNTED SHELF	1/2	1/2	16	2	-	-	-	-	-	EXTEND INDIRECT DRAIN TO FLOOR SINK
39	1	2HP DISPOSER FOR SINK AND CONTROL BOX. ALL MOUNTED ON ITEM 38	1/2	-	16	-	3	10	-	-	-	DISPOSER MOUNTED ON ITEM 38
44	1	PRE-RINSE UNIT	1/2	1/2	16	-	-	-	-	-	-	-
51	1	THREE COMPARTMENT SINK WITH TWO FAUCETS & THREE LEVER DRAINS	(2) 1/2	(2) 1/2	16	-	(3) 2	-	-	-	-	TWO FAUCETS. P.C. TO MANIFOLD THREE DRAINS AND EXTEND TO GREASE TRAP SUPPLIED AND INSTALLED BY PLUMBING CONTRACTOR
52	1	SOILED DISHTABLE WITH SINK AND CROSS DRAIN	-	-	-	1-1/2	-	-	-	-	-	EXTEND INDIRECT DRAIN TO FLOOR SINK
53	1	2 H.P. DISPOSER W/ CONTROL PANEL	1/2	-	16	-	3	10	-	-	-	DISPOSER MOUNTED ON ITEM 52
54	1	CONVEYOR DISHWASHER MOTORS, CONTROLS, BOOSTER AND TANK HEAT	1/2	1/2	12	2	-	-	-	-	-	PROVIDE HOT WATER TO DISHMACHINE, COLD WATER TO INTEGRAL DRAIN WATER TEMPERING KIT. EXTEND INDIRECT COPPER DRAIN TO FLOOR SINK.
57.C	2	WALK-IN COOLER EVAPORATORS	-	-	-	1	-	-	-	-	-	TWO UNITS IN WALK-IN. STUB DOWN FROM ABOVE TO TWO EVAPORATORS INSIDE WALK-IN. FSEC TO EXTEND INDIRECT COPPER DRAIN TO FLOOR SINK.
57.F	2	WALK-IN FREEZER EVAPORATORS	-	-	-	1 EA.	-	-	-	-	-	TWO UNITS IN WALK-IN. STUB DOWN FROM ABOVE TO TWO EVAPORATORS INSIDE WALK-IN. FSEC TO EXTEND INDIRECT COPPER DRAIN TO FLOOR SINK. FSEC TO WRAP HEAT TAPE ON DRAINLINE AS REQUIRED.
60	1	CLEAN DISHTABLE WITH CROSS DRAIN, LIMIT SWITCH AND DISH RACK SHELF	-	-	-	1-1/2	-	-	-	-	-	EXTEND INDIRECT DRAIN TO FLOOR SINK

S/S = STAINLESS STEEL PC = PLUMBING CONTRACTOR GC = GENERAL CONTRACTOR DFA = DOWN FROM ABOVE C.P. = HOOD CONTROL CENTER PANEL FSEC = FOOD SERVICE EQUIPMENT CONTRACTOR
MCA = MIN. CIRCUIT AMPACITY EC = ELECTRICAL CONTRACTOR HVAC = HVAC CONTRACTOR UFB = UP FROM BELOW FLA = FULL LOAD AMPS

GENERAL SHEET NOTES

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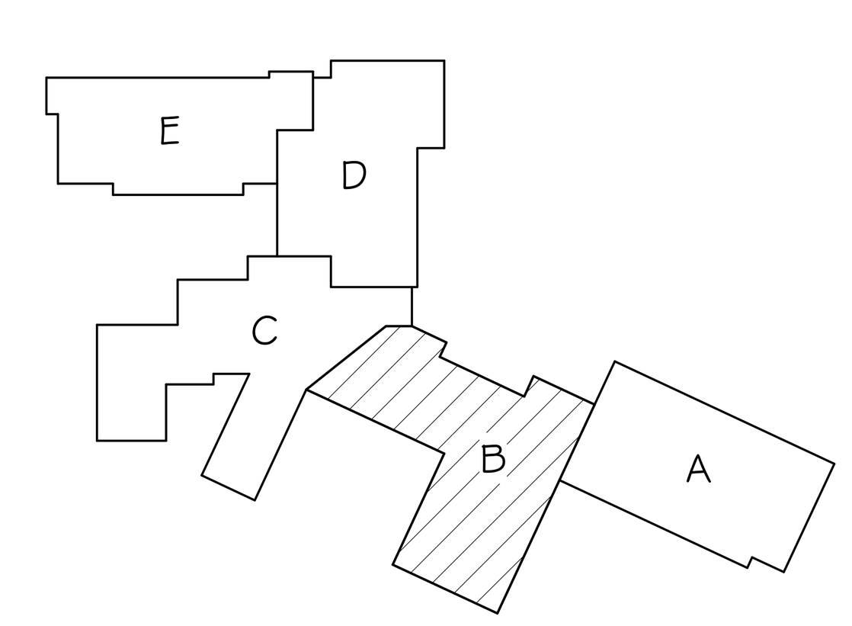
PLUMBING & HEATING NOTES

1 2" V DN.
2 1/2" 140-DEG HW, 3/4" SCW, 2"V/3"W DN TO FAUCET AND DISPOSER. REFER TO DETAIL.
3 WATER HAMMER ARRESTOR.
4 1/2" 140-DEG HW DN TO DISHWASHER ASSEMBLY, 1/2" CW DN TO INTEGRAL DRAIN WATER TEMPERING KIT. PROVIDE WITH ISOLATION SHUT-OFF VALVES (NOT SHOWN ON DRAWINGS FOR CLARITY). COORDINATE CONNECTION REQUIREMENTS WITH FSEC. SEE FSEC DRAWINGS FOR ADDITIONAL DETAILS.
5 1/2" SCW, 1/2" 140-DEG HW, 2"V/4"W, 1/2" SCW, 1/2" 140-DEG HW DN TO 3-COMP SINK.
6 1/2" CW, 1 1/2"V/2"W, 1/2" 140-DEG HW DN TO SK/LAV.
7 3/4" 140-DEG HW, 1" CW, 1" G DN. ROUTE WATER AND GAS PIPING DN IN FULL-HEIGHT WALL AND THROUGH HALF-HEIGHT WALL TO SERVE KITCHEN EQUIPMENT. PROVIDE INDIVIDUAL SHUT-OFFS ON THE WATER & GAS PIPING BRANCHES SERVING EACH INDIVIDUAL FIXTURE. REFER TO GAS PIPING RISER. SEE KITCHEN EQUIPMENT SHEETS FOR ADDITIONAL PIPING DETAILS/REQUIREMENTS.
8 COORDINATE CONDENSATE PIPING INSTALLATION AND ROUTING TO KITCHEN EQUIPMENT WITH FSEC. FSEC TO EXTEND INDIRECT COPPER DRAIN TO FSK. REFER TO KITCHEN EQUIPMENT SCHEDULES AND FSEC DRAWINGS FOR MORE DETAILS. COORDINATE HEAT TRACE WITH OTHER TRADES.
9 1 1/4" CW DN, 2" V DN FOR WC.
10 1/2" 140-DEG HW, 3/4" CW DN TO CAN WASH FAUCET. MOUNT HB 60" AFF. REFER TO PLUMBING FIXTURE SCHEDULE FOR DETAILS ABOUT FAUCET AND SPECIFIC FSK FOR DRAINAGE.
11 6" DS UP TO RD.
12 6" DS DN W/ CO 24" AFF.
13 6" DS UP TO FLOOR ABOVE. REFER TO SECOND FLOOR PLAN FOR CONTINUATION.
14 4" V UP (4" VTR).
15 ELECTRICAL EQUIPMENT. MAINTAIN REQUIRED CLEARANCES. JOG/STACK PIPES AS NECESSARY TO MAINTAIN ADEQUATE SPACE FROM ELECTRICAL EQUIPMENT. COORDINATE WITH ELECTRICAL CONTRACTOR. TYP ALL.
16 3" V UP.
17 1/2" CW DN, 1 1/2" V/2" W DN, 1/2" HW DN
18 6" DS UP TO 6" RD
19 4" V UP (4" VTR)
20 3/4" HWS & 3/4" HWR DN TO CUH
21 1 1/4" HWS UP, 1 1/4" HWR UP, 3/4" RHW UP, 3/4" HW UP, 3/4" CW UP
22 INFLOOR HEAT ZONE #5 PIPING MANIFOLD.. SEE INFLOOR HEAT MANIFOLD PIPING DETAIL.
23 3/4" HWS & 3/4" HWR DN TO INFLOOR HEAT MANIFOLD
24 INFLOOR HEAT ZONE PUMP. SEE INFLOOR HEAT PUMP PIPING DETAIL
25 10" DS DN W/ CO 24" AFF.
26 HYDRONIC CABINET UNIT HEATER. SEE CABINET UNIT HEATER PIPING DETAIL
27
28 INFLOOR HEAT ZONE #4 PIPING MANIFOLD. SEE INFLOOR HEAT MANIFOLD PIPING DETAIL
29 4" DS UP TO 4" RD
30 1" HWS & 1" HWR DN TO INFLOOR HEAT MANIFOLD
31 HYDRONIC PROP TYPE UNIT HEATER HUNG FROM STRUCTURE.SEE UNIT HEATER PIPING DETAIL
32 10" DS UP
33 3/4" CW DN TO WH MTD 24" ABOVE GRADE
34 2" W DN W/CO 24" AFF
35 2" W UP TO FSK.
36 2" V UP
37 2" W UP TO FSK
38 2" V DN
39 1 1/2" V/W DN, 1/2" CW DN
40 3" V UP
41 3" IRRIGATION METER WITH 3" REDUCED PRESSURE BACKFLOW PREVENTER. EXTEND 3" LSPR PIPING OUT THRU WALL & CAP FOR CONTINUATION BY SITE IRRIGATION CONTRACTOR
42 INFLOOR HEAT ZONE #3 PIPING MANIFOLD. SEE INFLOOR HEAT MANIFOLD PIPING DETAIL
43 1 1/2" V/2" W DN, 1/2" HW DN, 1/2" CW DN, 2" V DN
44 1" RHW UP, 1 1/2" HW UP, 2 1/2" CW UP, 6" HWS UP, 6" HWR UP, 6" CHS UP, 6" CHR UP
2 45 3" DS UP TO 3" RD



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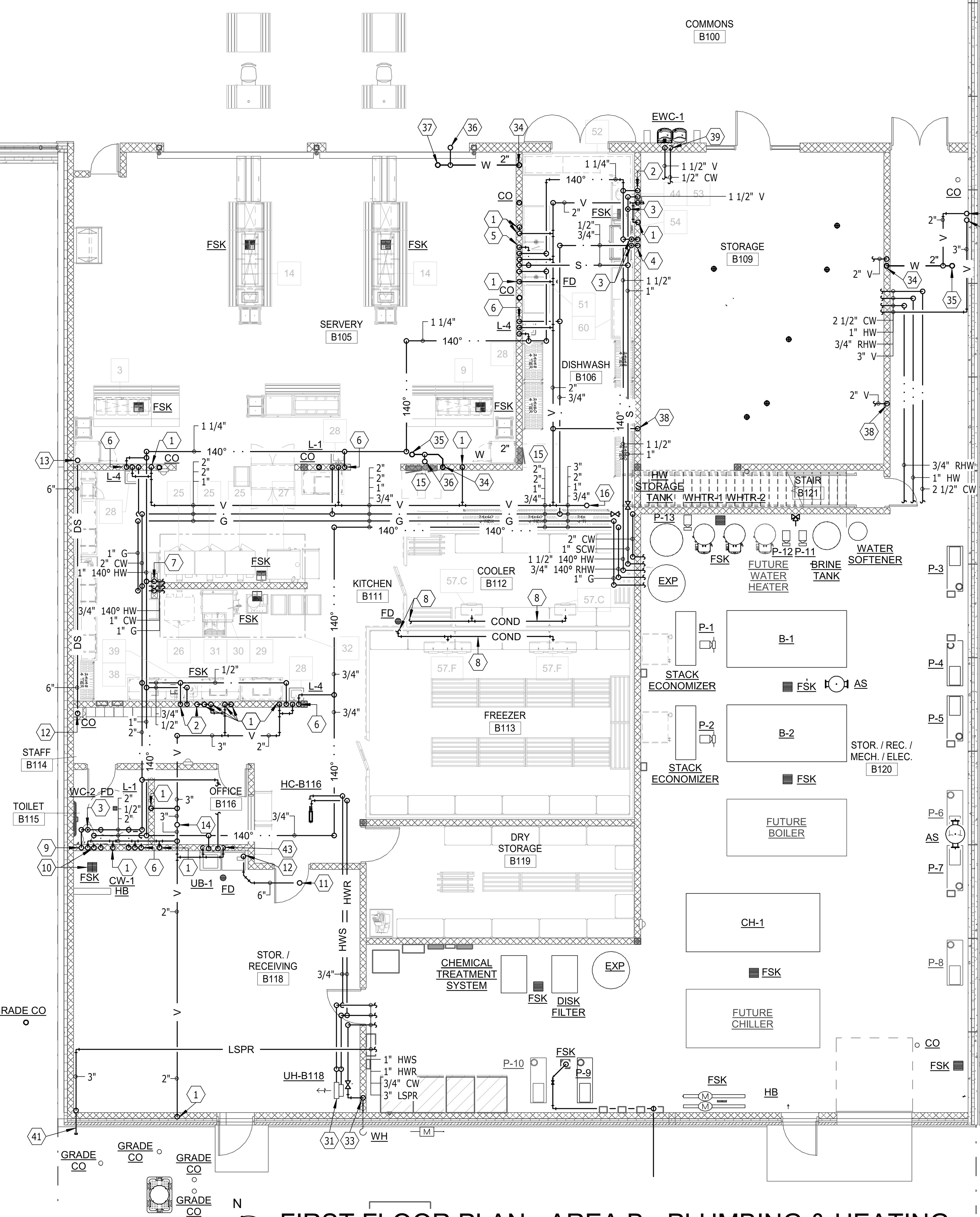

FIRST FLOOR PLAN - AREA B - PLUMBING & HEATING

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NO.	DATE	DESCRIPTION
1	12-6-21	ADDM M1
2	12-10-21	ADDM M2

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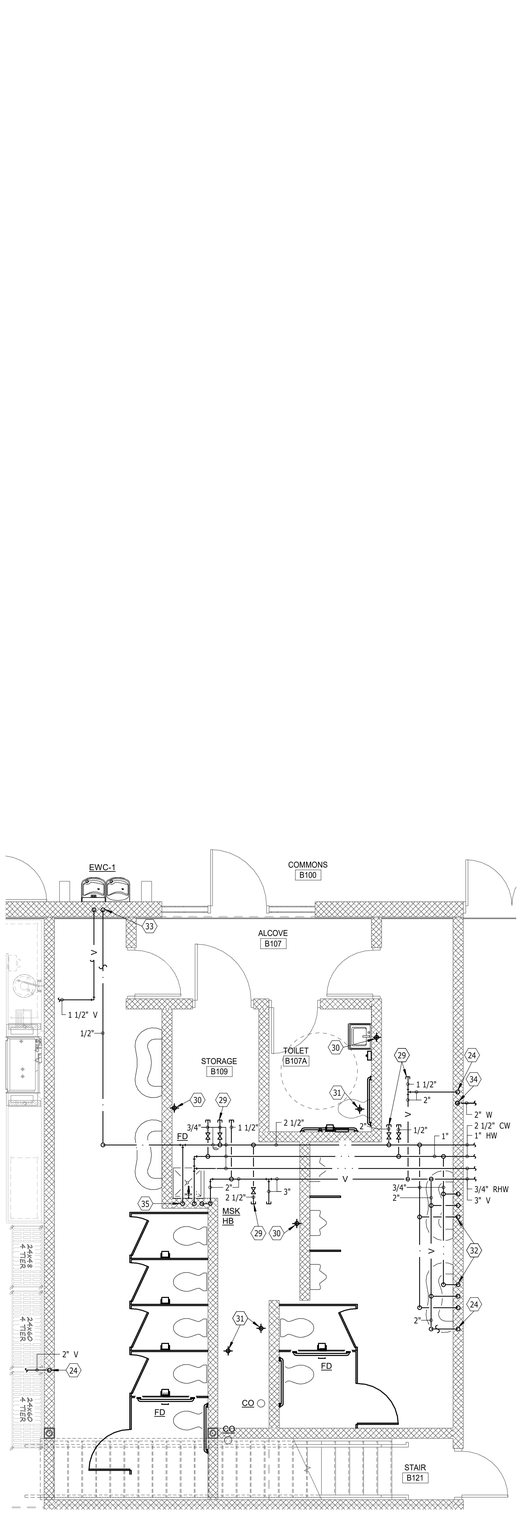
GENERAL SHEET NOTES

A. THE CEILING SPACE AVAILABLE REQUIRES COORDINATION WITH OTHER TRADES. THE CONTRACTORS SHALL PROVIDE ALL OFFSETS AND RELOCATE AS REQUIRED TO COORDINATE THE INSTALLATION OF ALL MATERIALS AND EQUIPMENT WITH OTHER TRADES.

PLUMBING & HEATING NOTES

1 6" DS UP TO RD.
2 6" DS DN W/ CO 24" AFF.
3 CONNECT TO 4" WATER SERVICE STUBBED UP TO BLIND FLANGE BY SITE UTILITY CONTRACTOR. SEE SITE UTILITY DRAWINGS
4 4" WATER METER WITH 4" REDUCED PRESSURE BACKFLOW PREVENTER. EXTEND RPZ TO FSK
5 CONNECT TO 6" FIRE PROTECTION SERVICE STUBBED UP TO BLIND FLANGE BY SITE UTILITY CONTRACTOR. SEE SITE UTILITY DRAWINGS
6 WATER SOFTENER & BRINE TANK WITH 3-WAY BYPASS. EXTEND DRAIN TO HUB DRAIN
7 WATER HEATER, INLINE PUMPS AND MASTER MIXING VALVE. SEE WATER HEATER PIPING DETAIL. EXTEND INTAKE & EXHAUST PIPING UP THRU ROOF PER MANUF. RECOMMENDATIONS. MAINTAIN 20' CLEARANCE FROM INTAKE LOUVERS IN MECH ROOM ABOVE. EXTEND DRAIN TO NEUTRALIZER. EXTEND DRAIN FROM NEUTRALIZER TO FSK
8 HOT WATER STORAGE TANK & PUMP. SEE WATER HEATER PIPING DETAIL
9 HYDRONIC BOILER SET ON CONCRETE HOUSEKEEPING PAD. PAD BY G.C., EXTEND DRAIN WITH SHUTOFF VALVE TO FSK. SEE BOILER PIPING DETAIL
10 STACK ECONOMIZER, EXTEND CPVC DRAIN TO NEUTRALIZER (NEAUTRALIZER BY STACK ECON. SUPPLIER). EXTEND DRAIN FROM NEUTRALIZER TO FSK
11 INLINE BOILER CIRC. PUMP. SEE BOILER PIPING DETAIL
12 HYDRONIC CHILLER SET ON CONCRETE HOUSEKEEPING PAD. PAD BY G.C., EXTEND DRAIN WITH SHUTOFF VALVE TO FSK. SEE CHILLER PIPING DETAIL
13 CHEMICAL TREATMENT
14 COOLING TOWER FILTER. EXTEND DRAIN WITH SHUTOFF VALVE TO FSK
15 BASE MOUNTED CONDENSER WATER PUMP SET ON CONCRETE HOUSEKEEPING PAD. PAD BY G.C., SEE BASE MOUNTED PUMP DETAIL
16 BASE MOUNTED HEATING WATER PUMP SET ON CONCRETE HOUSEKEEPING PAD. PAD BY G.C., SEE BASE MOUNTED PUMP PIPING DETAIL
17 BASE MOUNTED CHILLED WATER PUMP SET ON CONCRETE HOUSEKEEPING PAD. SEE BASE MOUNTED PUMP PIPING DETAIL
18 CHILLED WATER SYSTEM AIR SEPARATOR. SEE AIR SEPARATOR PIPING DETAIL
19 HEATING WATER SYSTEM AIR SEPARATOR. SEE AIR SEPARATOR PIPING DETAIL
20 CHILLED WATER SYSTEM VERTICAL EXPANSION TANK SET ON CONCRETE HOUSEKEEPING PAD. PAD BY G.C., SEE EXPANSION TANK PIPING DETAIL
21 HEATING WATER SYSTEM VERTICAL EXPANSION TANK SET ON CONCRETE HOUSEKEEPING PAD. PAD BY G.C., SEE EXPANSION TANK PIPING DETAIL
22 3" IRRIGATION METER WITH 3" REDUCED PRESSURE BACKFLOW PREVENTER. EXTEND 3" LSPR PIPING OUT THRU WALL & CAP FOR CONTINUATION BY SITE IRRIGATION CONTRACTOR
23 COOLING TOWER. SEE SPECIFICATION AND COOLING TOWER PIPING DETAIL FOR MORE INFORMATION. PROVIDE PAD & EQUIPMENT SUPPORTS AS REQUIRED TO RAISE LOWEST POINT OF COOLING TOWER BASIN 4FT ABOVE THE INLET OF THE CONDENSER WATER PUMP
24 2" V DN
25 4" V UP (4" VTR)
26 1 1/4" G DN WITH GAS COCK, PRESSURE REDUCING VALVE & UNION TO BOILER
27 GAS METER & GAS SERVICE. SEE SPECIFICATIONS. GAS PIPING SIZED AT 5 POUND.
28 1 1/4" RHW UP, 2" HW UP, 4" CW UP, 8" HWS UP, 8" HWR UP, 8" CHS UP, 8" CHR UP, 1 1/2" G UP
29 PIPING CAPPED FOR FUTURE FIXTURES
30 2" W PIPING CAPPED ABOVE FLOOR FOR FUTURE FIXTURES
31 4" W PIPING CAPPED ABOVE FLOOR FOR FUTURE FIXTURES
32 1/2" HW DN, 1 1/2" V/2" W DN, 1/2" CW DN. PIIPING TO BE ROUGHED IN FOR FUTURE FIXTURES
33 1 1/2" V/W DN, 1/2" CW DN
34 2" W DN W/CO 24" AFF
35 3/4" CW DN TO HB & MSK, 1/2" DN TO MSK, 2" V DN, 2" V DN. INSTALL PIPING VERTICAL PIPING ON UNISTRUT SUPPORT
36 3" FILTER SUPPLY & 3" FILTER RETURN DN TO FILTER WITH SHUTOFF VALVES
37 1" CW, 1" CHEMICAL FEED RETURN & 1" CHEMICAL SUPPLY DN TO CHEMICAL TREATMENT SYSTEM WITH SHUTOFF VALVES
38 3/4" CW DN WITH SHUTOFF VALVE TO HB



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ENLARGED TOILET ROOM FLOOR PLAN - AREA B - PLUMBING

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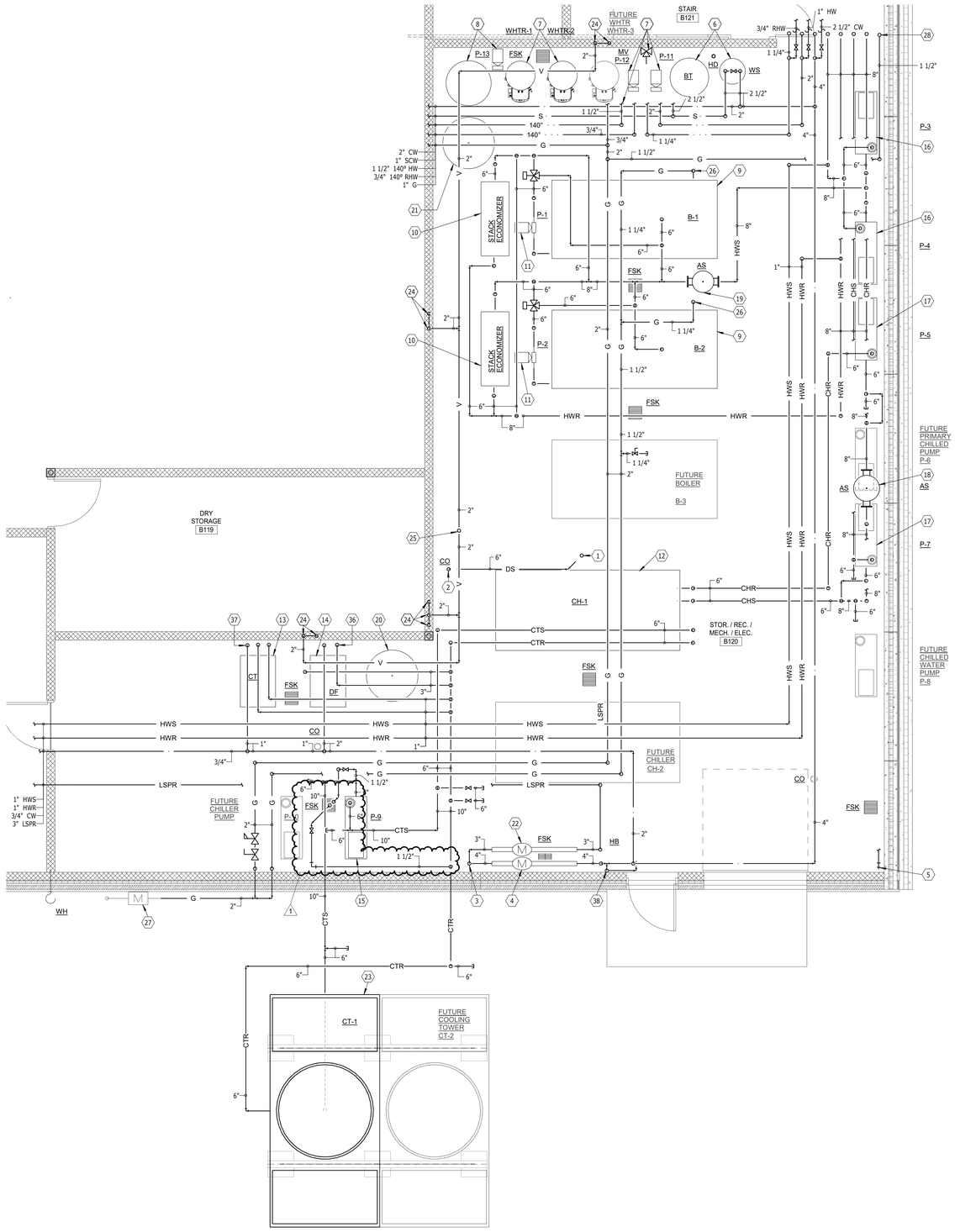

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ENLARGED BOILER ROOM PLAN - AREA B - PLUMBING & HEATING

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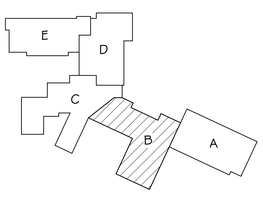

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project: HARRISBURG HS - 9TH GRADE ACADEMY

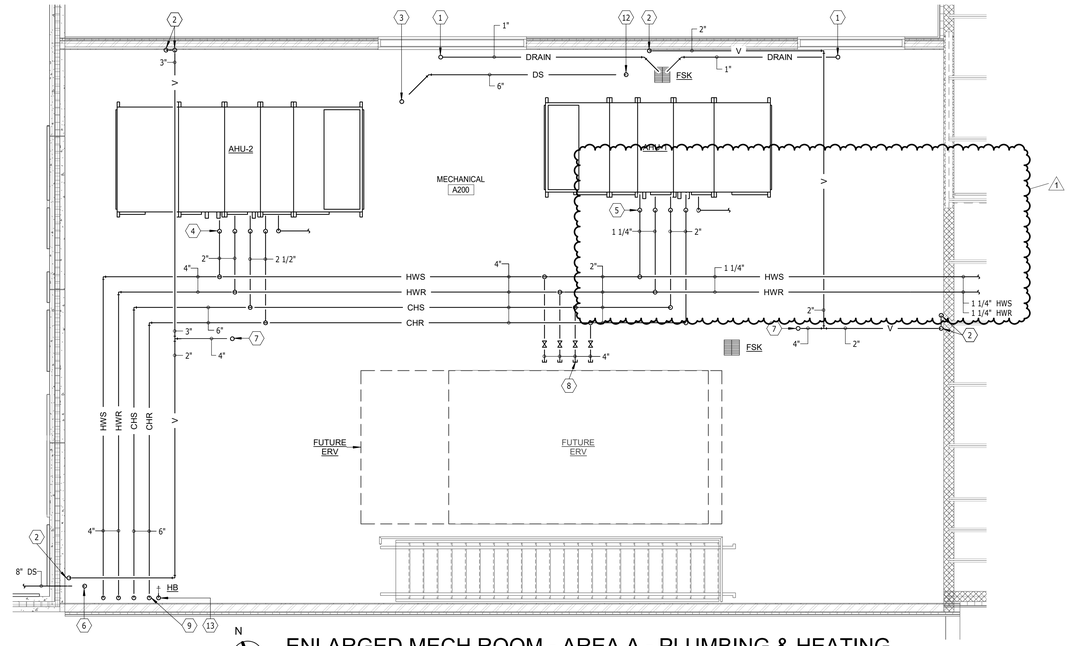
ENLARGED BOILER & TOILET ROOM PLAN - AREA B - PLUMBING & HEATING

number 1002.2904.20
date 11-19-21
revision
drawn DWM checked TJ

NO.	DATE	DESCRIPTION
1	12-10-21	ADDM M2

8.20-1BA

12/10/2021 8:06:20 AM



ENLARGED MECH ROOM - AREA A - PLUMBING & HEATING

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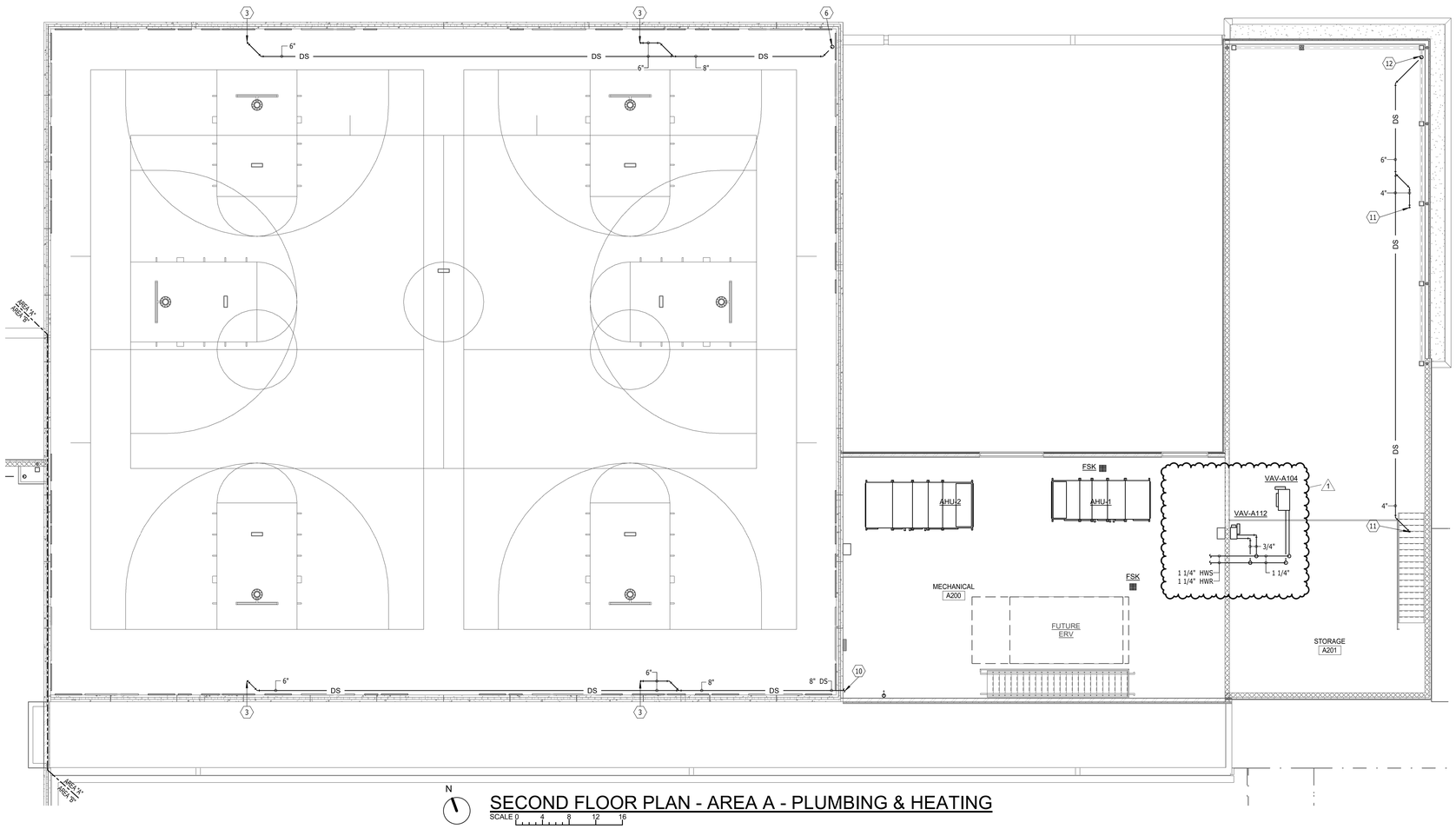

SECOND FLOOR PLAN - AREA A - PLUMBING & HEATING

SCALE 0 4 8 12 16

GENERAL SHEET NOTES

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PLUMBING & HEATING NOTES

1 EXTEND 1" DRAIN FROM LOUVER DRAIN PAN TO FSK
2 2" V DN
3 6" DS UP TO 8" RD
4 2" HWS, 2" HWR, 2 1/2" CHS & 2 1/2" CHR DN TO AHU. EXTEND COND TO FSK
5 1 1/4" HWS, 1 1/4" HWR, 2" CHS & 2" CHR DN TO AHU. EXTEND COND TO FSK
6 6" DS DN
7 4" V UP (4" VTR)
8 PIPING CAPPED FOR FUTURE ADDITION
9 4"HWS DN, 4" HWR DN, 6" CHS DN, 6" CHR DN
10 SEE ENLARGED MECHANICAL ROOM AREA A FOR CONTINUATION
11 4" DS UP TO 4" RD
12 6" DS DN
13 3/4" CW DN WITH SHUTOFF VALVE TO HB

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project: HARRISBURG HS - 9TH GRADE ACADEMY

SECOND FLOOR PLAN - AREA A - PLUMBING & HEATING

number 1002.2904.20
date 11-19-21
revision
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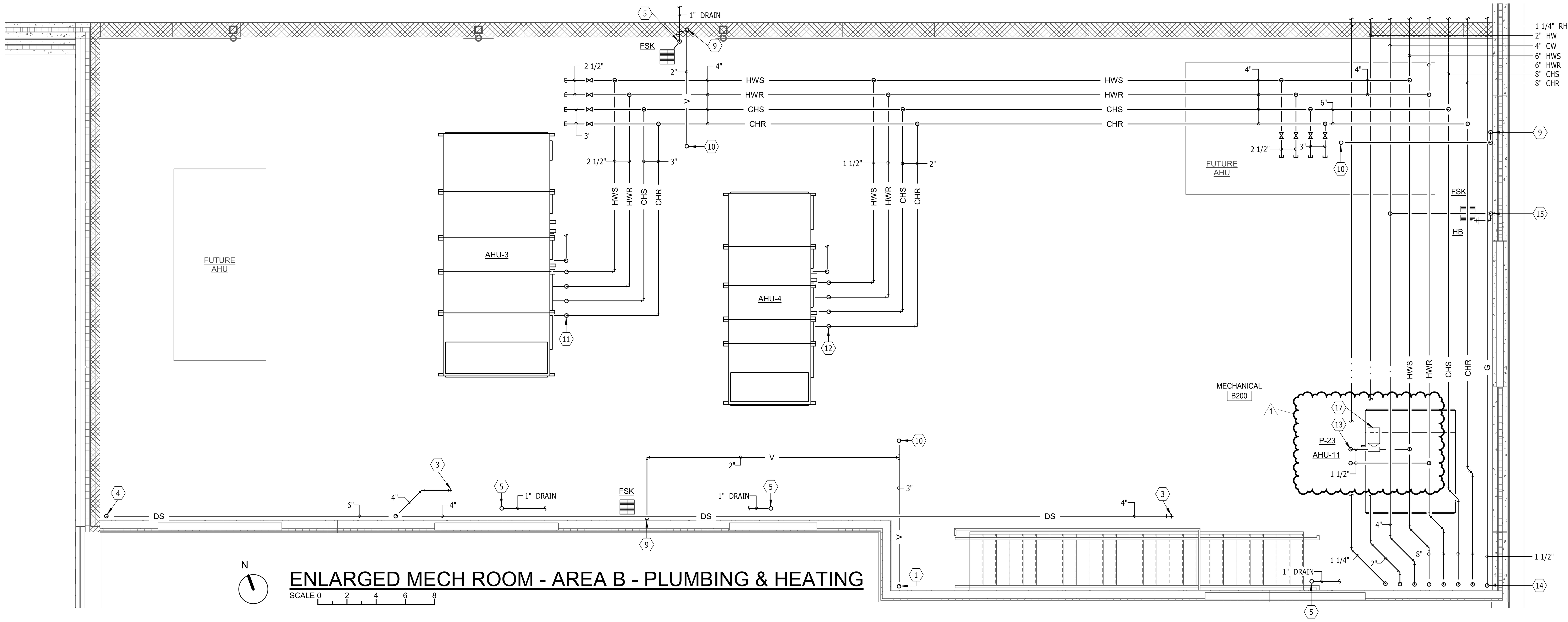
NO.	DATE	DESCRIPTION
1	12-10-21	ADDM #2

8.20-2A

12/9/2021 5:13:28 PM



ENLARGED MECH ROOM - AREA B - PLUMBING & HEATING

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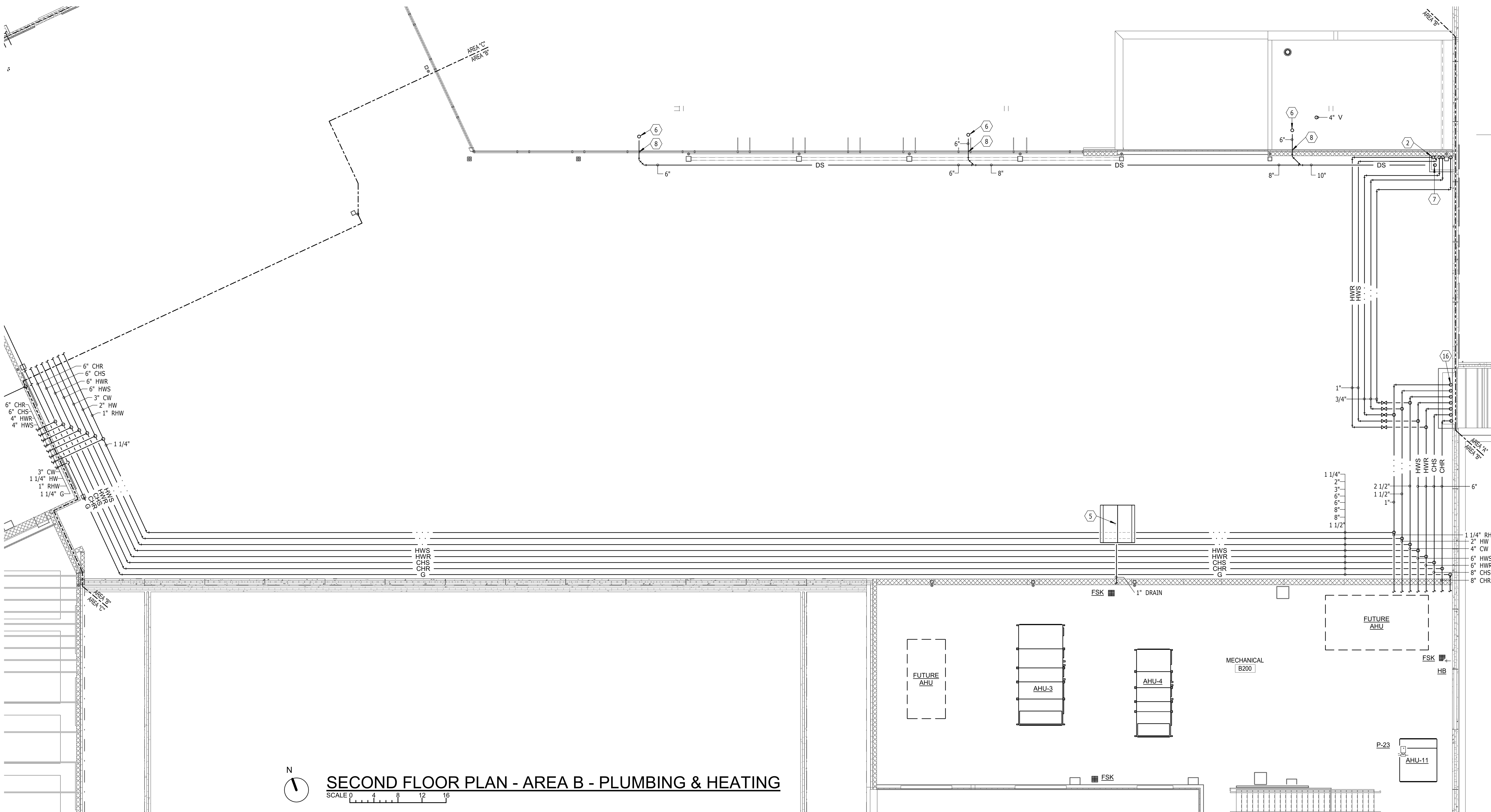

SECOND FLOOR PLAN - AREA B - PLUMBING & HEATING

SCALE 0 4 8 12 16

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PLUMBING & HEATING NOTES

1 3" V DN.
2 1 1/4" HWS DN, 1 1/4" HWR DN, 3/4" RHW DN, 3/4" HW DN, 3/4" CW DN
3 4" DS UP TO 4" RD
4 6" DS DN
5 EXTEND 1" DRAIN FROM LOUVER DRAIN PAN TO FSK
6 6" DS UP TO 6" RD
7 10" DS DN
8 COORDINATE PIPING PENETRATION THRU BEAM WITH G.C.
9 2" V DN
10 4" V UP (4" VTR)
11 2 1/2" HWS DN, 2 1/2" HWR DN, 3" CHS DN, 3" CHR DN. EXTEND COND TO FSK
12 1 1/2" HWS DN, 1 1/2" HWR DN, 2" CHS DN, 2" CHR DN. EXTEND COND TO FSK
13 1 1/2" HWS DN, 1 1/2" HWR DN
14 1 1/4" RHW DN, 2" HW DN, 4" CW DN, 8" HWS DN, 8" HWR DN, 8" CHS DN, 8" CHR DN, 1 1/2" G DN
15 3/4" CW DN WITH SHUTOFF VALVE TO HB
16 1" RHW DN, 1 1/2" HW DN, 2 1/2" CW DN, 6" HWS DN, 6" HWR DN, 6" CHS DN, 6" CHR DN
17 AHU-11 HEATING COIL INLINE PUMP. SEE AHU-11 PIPING DETAIL

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project
HARRISBURG HS - 9TH GRADE ACADEMY

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SECOND FLOOR PLAN - AREA B - PLUMBING & HEATING

number 1002.2904.20
date 11-19-21
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drawn DWM checked Td

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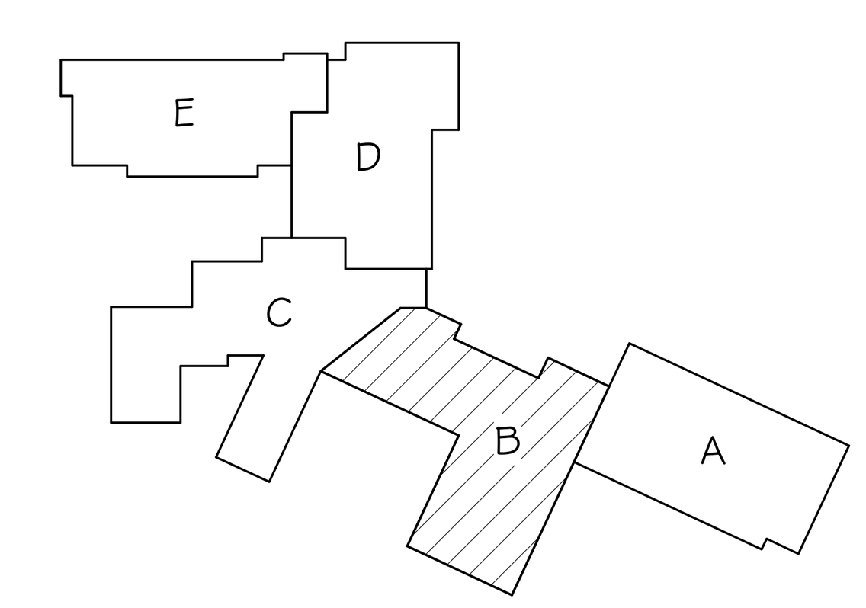

KEYPLAN

8.20-2B

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GENERAL SHEET NOTES

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B. ALL EXPOSED DUCTWORK SHALL BE DUCTMATE OR TDC. EXPOSED DUCTWORK SHALL BE PAINT GRIP TYPE EXCEPT IN MECHANICAL ROOMS.

C. COORDINATE THERMOSTAT LOCATIONS WITH OTHER TRADES AND OWNER. THERMOSTATS IN COMMON AREAS SHALL BE FLAT PLATE STAINLESS STEEL SENSOR.

D. RETURN AIR BOOTS SHALL BE CONSTRUCTED OF 24 GAUGE INSULATED DUCTWORK. SEE DETAIL. PROVIDE ON ALL R/A AND TRANSFER AIR GRILLES.

VENTILATION NOTES

1 PRV INSTALLED ON ROOF WITH FULLY INSULATED ROOF CURB.

2 60' OF FABRIC DUCT INSTALLED BELOW BAR JOISTS WITH BOTTOM OF DUCT AT 15' - 5" AFF. 4,200 CFM.

3 HATCHED AREA SHOWS COMPLETE FABRIC DUCT SYSTEM DESIGNED BY FABRIC DUCT MANUFACTURER. 9,400 CFM TOTAL.

4 PROVIDE OPENING IN TOP OF DUCT.

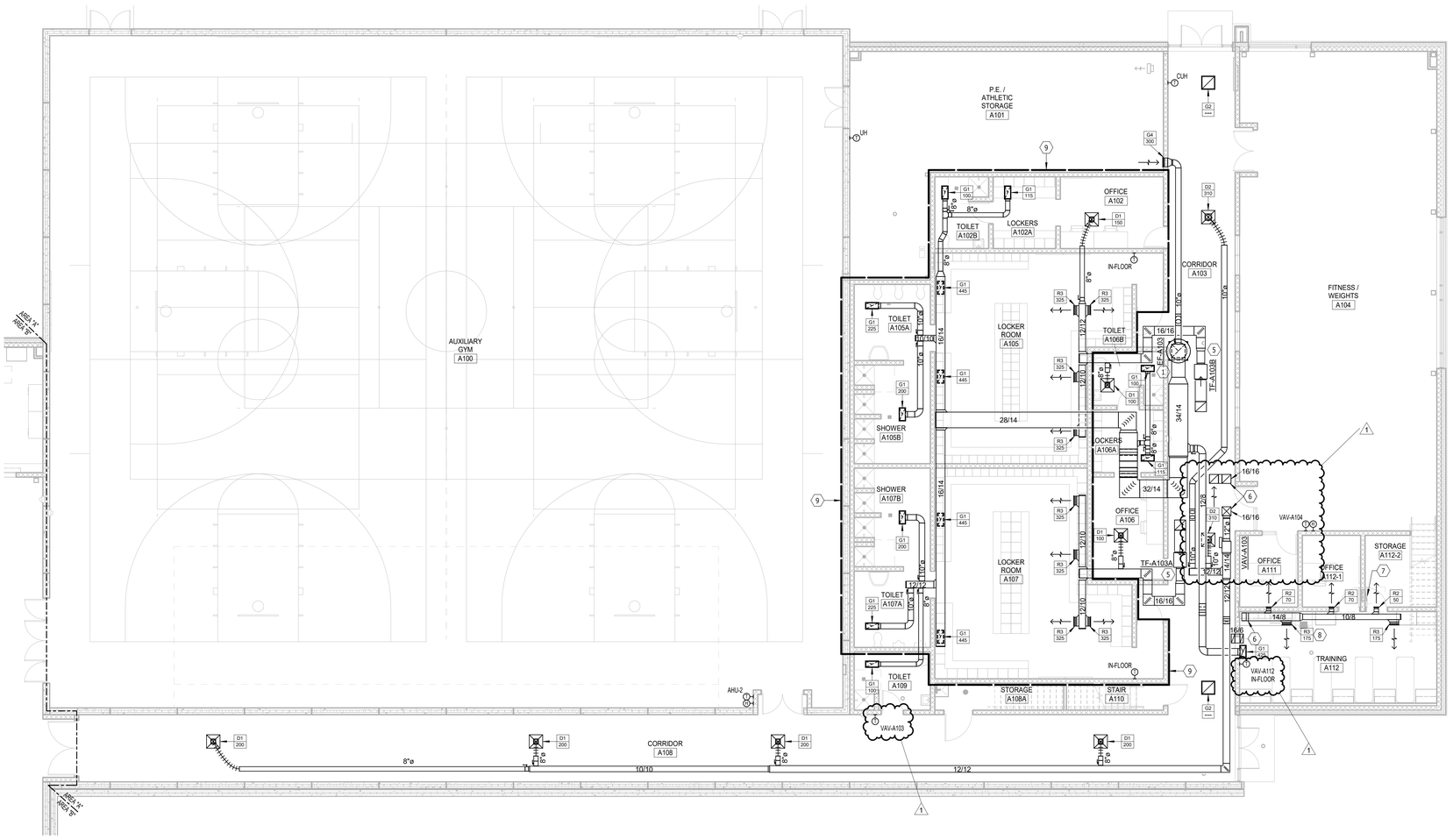
5 IN-LINE TRANSFER FAN INSTALLED ABOVE CEILING WITH ANTI-VIBRATION HANGING KIT. PROVIDE WITH FLEXIBLE DUCT CONNECTIONS.

6 SEE SECOND FLOOR PLAN TO CONTINUATION.

7 ELECTRICAL EQUIPMENT SPACE. MAINTAIN REQUIRED CLEARANCES.

8 48"X24" SAFETY MONITORING FILTER FOR AIR BEING RETURNED TO THE SHOP FROM THE DUST COLLECTOR.

9 MECHANICAL PENETRATIONS INTO OR OUT OF A STORM SHELTER SHALL BE PROTECTED FROM INCOMING PROJECTILES BY CONCRETE BAFFLES PER ICC 500. VERIFY AND COORDINATE BAFFLE/OPENING DIMENSIONS W/STRUCTURAL.



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FIRST FLOOR PLAN - AREA A - VENTILATION & A/C

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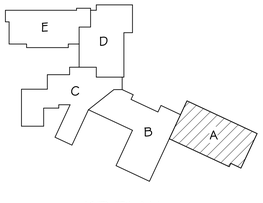

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FIRST FLOOR PLAN - AREA A - VENTILATION & A/C

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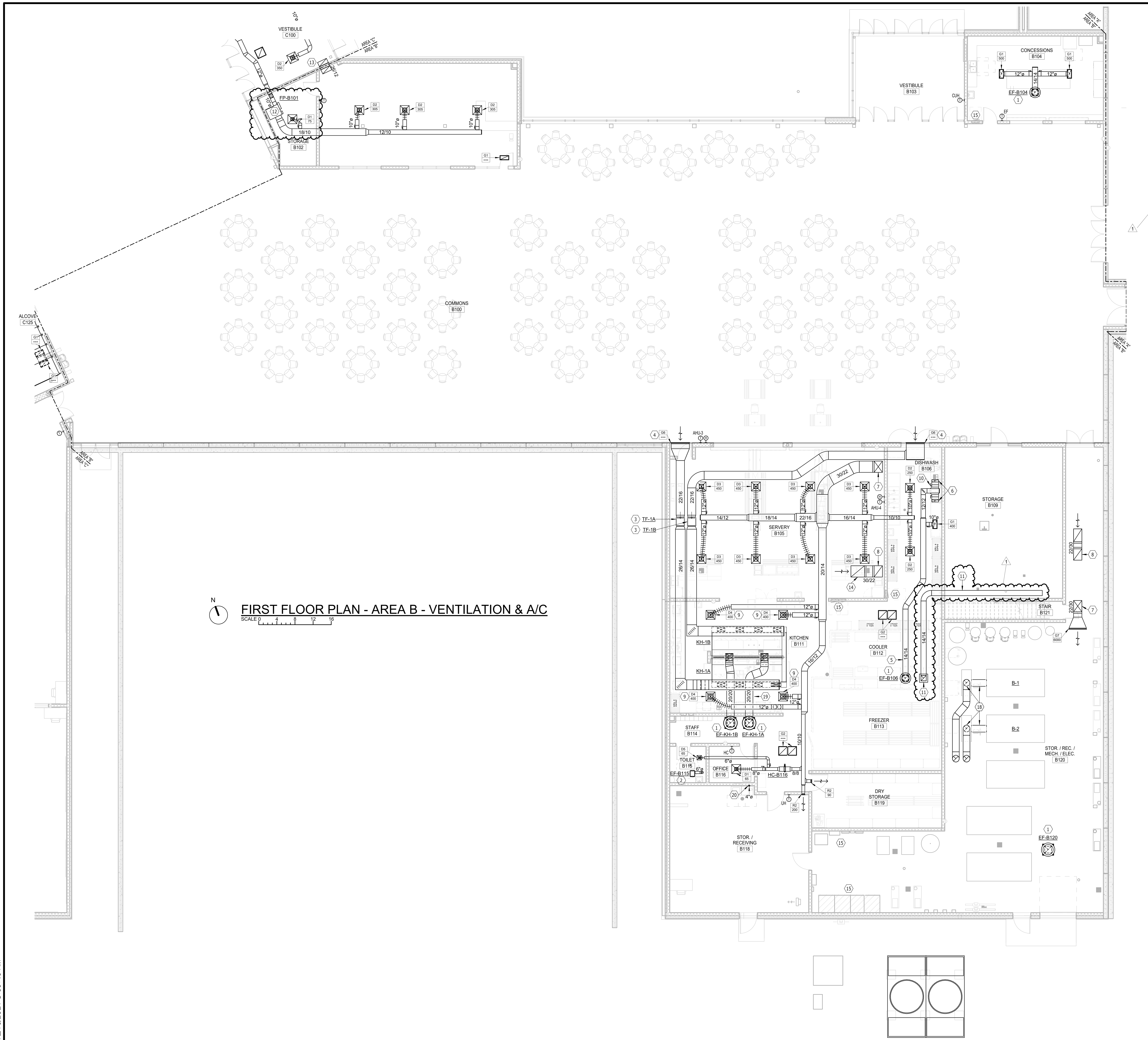
8.40-1A

12/9/2021 5:15:02 PM



FIRST FLOOR PLAN - AREA B - VENTILATION & A/C

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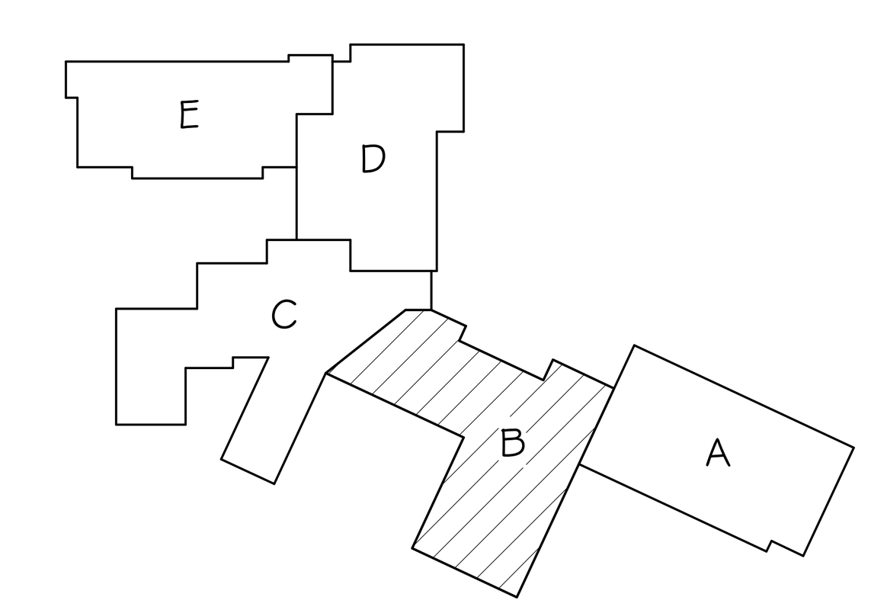

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GENERAL SHEET NOTES

A. THE CEILING SPACE AVAILABLE REQUIRES COORDINATION WITH OTHER TRADES. THE CONTRACTORS SHALL PROVIDE ALL OFFSETS AND RELOCATE AS REQUIRED TO COORDINATE THE INSTALLATION OF ALL MATERIALS AND EQUIPMENT WITH OTHER TRADES.

B. ALL EXPOSED DUCTWORK SHALL BE DUCTMATE OR TDC. EXPOSED DUCTWORK SHALL BE PAINT GRIP TYPE EXCEPT IN MECHANICAL ROOMS.

C. COORDINATE THERMOSTAT LOCATIONS WITH OTHER TRADES AND OWNER. THERMOSTATS IN COMMON AREAS SHALL BE FLAT PLATE STAINLESS STEEL SENSOR.

D. RETURN AIR BOOTS SHALL BE CONSTRUCTED OF 24 GAUGE INSULATED DUCTWORK. SEE DETAIL. PROVIDE ON ALL R/A AND TRANSFER AIR GRILLES.

VENTILATION NOTES

1. PRV INSTALLED ON ROOF WITH FULLY INSULATED ROOF CURB.
2. CEILING MOUNT EXHAUST FAN. PROVIDE EXHAUST DUCT THRU THE ROOF AND TERMINATE WITH GOOSENECK.
3. IN-LINE TRANSFER FAN INSTALLED ABOVE CEILING WITH ANTI-VIBRATION HANGING KIT. PROVIDE WITH FLEXIBLE DUCT CONNECTIONS.
4. SIDEWALL RETURN GRILLE.
5. DISHWASHER EXHAUST DUCT SHALL BE STAINLESS STEEL.
6. STAINLESS STEEL EXHAUST DUCT TO DISHWASHER DUCT CONNECTIONS. COORDINATE REQUIREMENTS WITH KITCHEN EQUIPMENT SUPPLIER. BALANCE TO 200 CFM ON LOAD END AND 400 CFM ON UNLOAD END.
7. SUPPLY DUCT UP THRU FLOOR TO AIR HANDLING UNIT.
8. RETURN DUCT UP THRU FLOOR TO AIR HANDLING UNIT.
9. PERFORATED TYPE DIFFUSER. ALL DIFFUSERS WITHIN 10' OF KITCHEN HOOOD SHALL DIRECT AIRFLOW AWAY FROM HOODS.
10. BALANCE DAMPER. (TYP)
11. EXHAUST DUCT FOR FUTURE RESTROOM BUILD OUT. PROVIDE INSULATED ROOF CURB FOR FUTURE FAN LOCATION. (1)
12. FAN POWERED VAV TERMINAL UNIT WITH RE-HEAT COIL INSTALLED ABOVE CEILING. PROVIDE SOUND ATTENUATION BOOT. (TYP)
13. AIR TRANSFER DUCT WITH OPENINGS ON BOTH SIDES OF WALL. BOTH OPENINGS SHALL BE IN THE TOP OR ON THE SAME SIDE - NO TURN VANES - SIZE AS SHOWN OR AT 500 FPM. (TYP)
14. PROVIDE OPENING IN TOP OF DUCT.
15. ELECTRICAL EQUIPMENT SPACE. MAINTAIN REQUIRED CLEARANCES.
16. ROUTE DUCTWORK IN JOIST SPACE.
17. OFFSET DUCTWORK BELOW JOISTS.
18. PROVIDE BOILER VENTING PER MANUFACTURERS INSTRUCTIONS. SEE SPECS AND DETAILS FOR MORE INFORMATION.
19. ALL DUCT ELBOWS ON GREASE DUCT SHALL BE RADIUS.
20. DRYER VENT UP THRU ROOF TO EXHAUST OUTLET. TERMINATE 3' AWAY FORM ANY OPENING INTO THE BUILDING AND 10' AWAY FROM ANY MECHANICAL INTAKE. COORDINATE EXACT LOCATION OF DRYER WITH ARCHITECTURAL PLANS AND OWNER. PROVIDE AN EQUIVALENT LENGTH OF THE EXHAUST DUCT ON A PERMANENT LABEL LOCATED WITHIN 6' OF THE EXHAUST CONNECTION. INSTALL PER MANUFACTURERS RECOMMENDATIONS.

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project
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FIRST FLOOR PLAN - AREA B - VENTILATION & A/C

number 1002.2904.20
date 11-19-21
revision
drawn DDK checked Td

NO.	DATE	DESCRIPTION
1	12-10-21	ADDM M2

8.40-1B

12/10/2021 8:09:40 AM

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D. RETURN AIR BOOTS SHALL BE CONSTRUCTED OF 24 GAUGE INSULATED DUCTWORK. SEE DETAIL. PROVIDE ON ALL R/A AND TRANSFER AIR GRILLES.

VENTILATION NOTES

1 FAN POWERED VAV TERMINAL UNIT WITH RE-HEAT COIL INSTALLED ABOVE CEILING. PROVIDE SOUND ATTENUATION BOOT. (TYP)
2 18/12 E/A UP INTO CHASE.
3 SHUT OFF TYPE VAV TERMINAL WITH RE-HEAT COIL INSTALLED ABOVE CEILING. (TYP)
4 MECHANICAL ITEMS INSIDE DASHED AREA ARE PART OF ADD ALT.#1. OMIT FP-E114, FP-E118, FP-E214, FP-E218 AND ASSOCIATED DUCTWORK AND ACCESSORIES FROM BASE BID.
5 CAP AT THIS LOCATION FOR BASE BID.
6 MECHANICAL ITEMS INSIDE DASHED AREA ARE PART OF BASE BID. OMIT IF [illegible]
7 EXPOSED SPIRAL DUCT THRU CORRIDOR SHALL BE DOUBLE WALL CONSTRUCTION.

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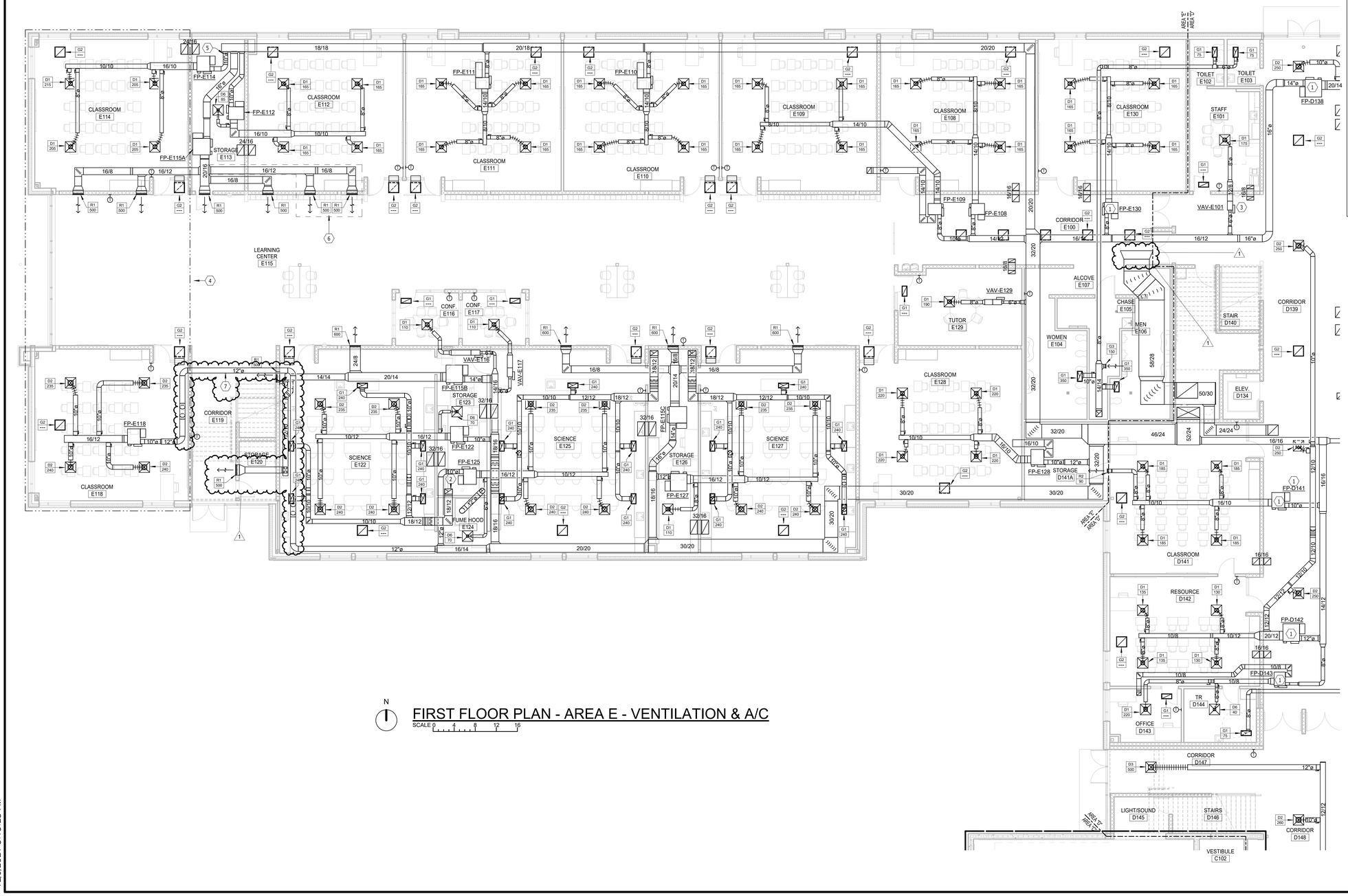

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FIRST FLOOR PLAN - AREA E - VENTILATION & A/C
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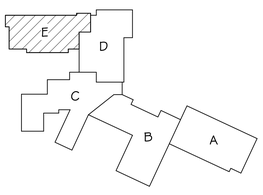

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12/9/2021 5:15:23 PM

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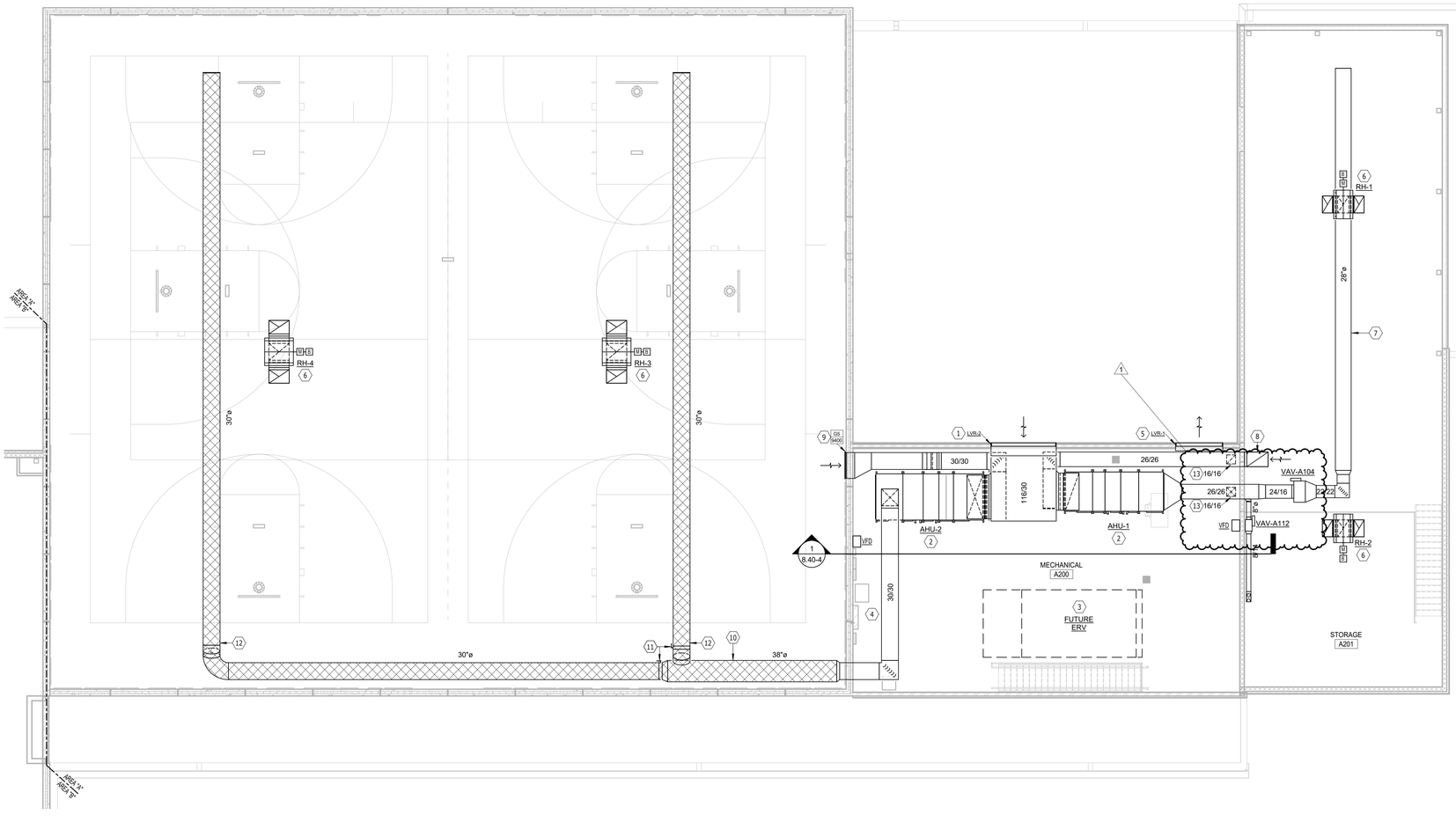
B. ALL EXPOSED DUCTWORK SHALL BE DUCTMATE OR TDC. EXPOSED DUCTWORK SHALL BE PAINT GRIP TYPE EXCEPT IN MECHANICAL ROOMS.
C. COORDINATE THERMOSTAT LOCATIONS WITH OTHER TRADES AND OWNER. THERMOSTATS IN COMMON AREAS SHALL BE FLAT PLATE STAINLESS STEEL SENSOR.
D. RETURN AIR BOOTS SHALL BE CONSTRUCTED OF 24 GAUGE INSULATED DUCTWORK. SEE DETAIL. PROVIDE ON ALL R/A AND TRANSFER AIR GRILLES.

VENTILATION NOTES

1 LOUVER WITH EXTENDED SILL WITH END DAMS . SEE DETAIL.
2 AIR HANDLING UNIT INSTALLED ON CONCRETE PAD BY THE GENERAL CONTRACTOR. PROVIDE WITH FLEXIBLE DUCT CONNECTIONS.
3 FUTURE ERV LOCATION.
4 ELECTRICAL EQUIPMENT SPACE. MAINTAIN REQUIRED CLEARANCES.
5 LOUVER FOR FUTURE MECHANICAL EQUIPMENT. CAP LOUVER AND INSULATE WITH 2" RIGID INSULATION.
6 RELIEF HOOD INSTALLED ON ROOF WITH FULLY INSULATED ROOF CURB. SEE DETAIL.
7 60' OF FABRIC DUCT INSTALLED BELOW BAR JOISTS WITH BOTTOM OF DUCT AT 15' - 5" AFF. 4,200 CFM.
8 PROVIDE OPENING IN TOP OF DUCT.
9 SIDEWALL RETURN GRILLE.
10 HATCHED AREA SHOWS COMPLETE FABRIC DUCT SYSTEM DESIGNED BY FABRIC DUCT MANUFACTURER. 9,400 CFM TOTAL.
11 BALANCE DAMPER. (TYP)
12 OFFSET FABRIC DUCT UP IN BETWEEN BAR JOISTS WITH BOTTOM OF DUCT AT 23' - 5" AFF.
13 SEE FIRST FLOOR PLAN FOR CONTINUATION.



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SECOND FLOOR PLAN - AREA A - VENTILATION & A/C

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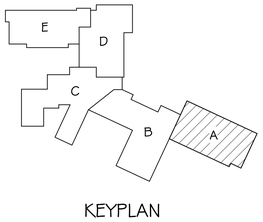

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project: HARRISBURG HS - 9TH GRADE ACADEMY

sheet contents: SECOND FLOOR PLAN - AREA A - VENT. & A/C

number 1002.2904.20
date 11-19-21
revision
drawn DDK checked Td

NO.	DATE	DESCRIPTION
1	12-10-21	ADDM #2

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GENERAL SHEET NOTES

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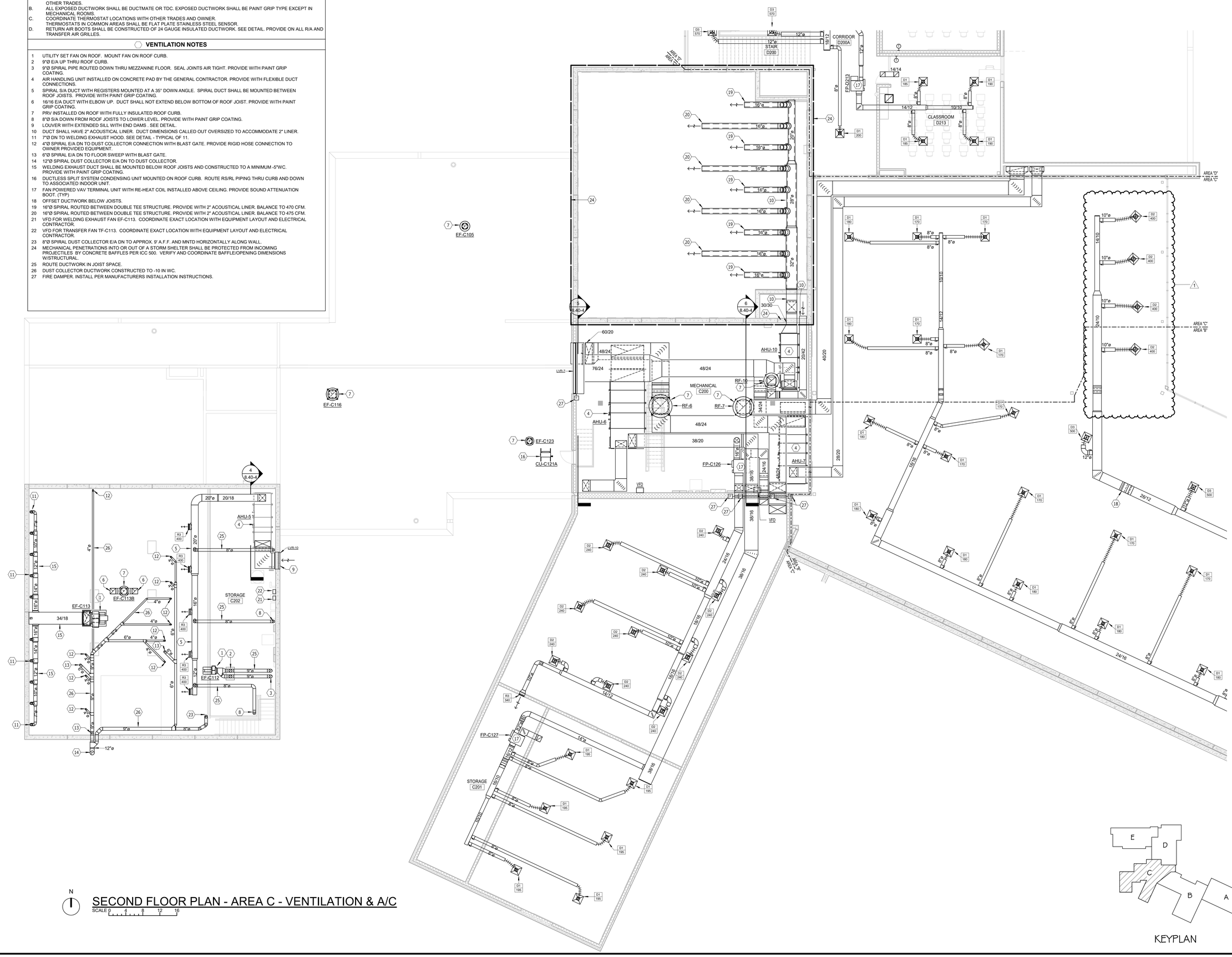
B. ALL EXPOSED DUCTWORK SHALL BE DUCTMATE OR TDC. EXPOSED DUCTWORK SHALL BE PAINT GRIP TYPE EXCEPT IN MECHANICAL ROOMS.
C. COORDINATE THERMOSTAT LOCATIONS WITH OTHER TRADES AND OWNER. THERMOSTATS IN COMMON AREAS SHALL BE FLAT PLATE STAINLESS STEEL SENSOR.
D. RETURN AIR BOOTS SHALL BE CONSTRUCTED OF 24 GAUGE INSULATED DUCTWORK. SEE DETAIL. PROVIDE ON ALL R/A AND TRANSFER AIR GRILLES.

VENTILATION NOTES

1 UTILITY SET FAN ON ROOF. MOUNT FAN ON ROOF CURB.
2 9"Ø E/A UP THRU ROOF CURB.
3 9"Ø SPIRAL PIPE ROUTED DOWN THRU MEZZANINE FLOOR. SEAL JOINTS AIR TIGHT. PROVIDE WITH PAINT GRIP COATING.
4 AIR HANDLING UNIT INSTALLED ON CONCRETE PAD BY THE GENERAL CONTRACTOR. PROVIDE WITH FLEXIBLE DUCT CONNECTIONS.
5 SPIRAL S/A DUCT WITH REGISTERS MOUNTED AT A 35° DOWN ANGLE. SPIRAL DUCT SHALL BE MOUNTED BETWEEN ROOF JOISTS. PROVIDE WITH PAINT GRIP COATING.
6 16/16 E/A DUCT WITH ELBOW UP. DUCT SHALL NOT EXTEND BELOW BOTTOM OF ROOF JOIST. PROVIDE WITH PAINT GRIP COATING.
7 PRV INSTALLED ON ROOF WITH FULLY INSULATED ROOF CURB.
8 8"Ø S/A DOWN FROM ROOF JOISTS TO LOWER LEVEL. PROVIDE WITH PAINT GRIP COATING.
9 LOUVER WITH EXTENDED SILL WITH END DAMS . SEE DETAIL.
10 DUCT SHALL HAVE 2" ACOUSTICAL LINER. DUCT DIMENSIONS CALLED OUT OVERSIZED TO ACCOMMODATE 2" LINER.
11 7"Ø DN TO WELDING EXHAUST HOOD. SEE DETAIL - TYPICAL OF 11.
12 4"Ø SPIRAL E/A DN TO DUST COLLECTOR CONNECTION WITH BLAST GATE. PROVIDE RIGID HOSE CONNECTION TO OWNER PROVIDED EQUIPMENT.
13 6"Ø SPIRAL E/A DN TO FLOOR SWEEP WITH BLAST GATE.
14 12"Ø SPIRAL DUST COLLECTOR E/A DN TO DUST COLLECTOR.
15 WELDING EXHAUST DUCT SHALL BE MOUNTED BELOW ROOF JOISTS AND CONSTRUCTED TO A MINIMUM -5"WC. PROVIDE WITH PAINT GRIP COATING.
16 DUCTLESS SPLIT SYSTEM CONDENSING UNIT MOUNTED ON ROOF CURB. ROUTE RS/RL PIPING THRU CURB AND DOWN TO ASSOCIATED INDOOR UNIT.
17 FAN POWERED VAV TERMINAL UNIT WITH RE-HEAT COIL INSTALLED ABOVE CEILING. PROVIDE SOUND ATTENUATION BOOT. (TYP)
18 OFFSET DUCTWORK BELOW JOISTS.
19 16"Ø SPIRAL ROUTED BETWEEN DOUBLE TEE STRUCTURE. PROVIDE WITH 2" ACOUSTICAL LINER. BALANCE TO 470 CFM.
20 16"Ø SPIRAL ROUTED BETWEEN DOUBLE TEE STRUCTURE. PROVIDE WITH 2" ACOUSTICAL LINER. BALANCE TO 475 CFM.
21 VFD FOR WELDING EXHAUST FAN EF-C113. COORDINATE EXACT LOCATION WITH EQUIPMENT LAYOUT AND ELECTRICAL CONTRACTOR.
22 VFD FOR TRANSFER FAN TF-C113. COORDINATE EXACT LOCATION WITH EQUIPMENT LAYOUT AND ELECTRICAL CONTRACTOR.
23 8"Ø SPIRAL DUST COLLECTOR E/A DN TO APPROX. 9' A.F.F. AND MNTD HORIZONTALLY ALONG WALL.
24 MECHANICAL PENETRATIONS INTO OR OUT OF A STORM SHELTER SHALL BE PROTECTED FROM INCOMING PROJECTILES BY CONCRETE BAFFLES PER ICC 500. VERIFY AND COORDINATE BAFFLE/OPENING DIMENSIONS W/STRUCTURAL.
25 ROUTE DUCTWORK IN JOIST SPACE.
26 DUST COLLECTOR DUCTWORK CONSTRUCTED TO -10 IN WC.
27 FIRE DAMPER. INSTALL PER MANUFACTURERS INSTALLATION INSTRUCTIONS.



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SECOND FLOOR PLAN - AREA C - VENTILATION & A/C
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project
HARRISBURG HS - 9TH GRADE ACADEMY

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SECOND FLOOR PLAN - AREA C - VENT. & A/C

number 1002.2904.20
date 11-19-21
revision
drawn NJH checked Td

NO.	DATE	DESCRIPTION
1	12-10-21	ADDM M2

8.40-2C

12/10/2021 10:16:01 AM

GENERAL SHEET NOTES

A. THE CEILING SPACE AVAILABLE REQUIRES COORDINATION WITH OTHER TRADES. THE CONTRACTORS SHALL PROVIDE ALL OFFSETS AND RELOCATE AS REQUIRED TO COORDINATE THE INSTALLATION OF ALL MATERIALS AND EQUIPMENT WITH OTHER TRADES.

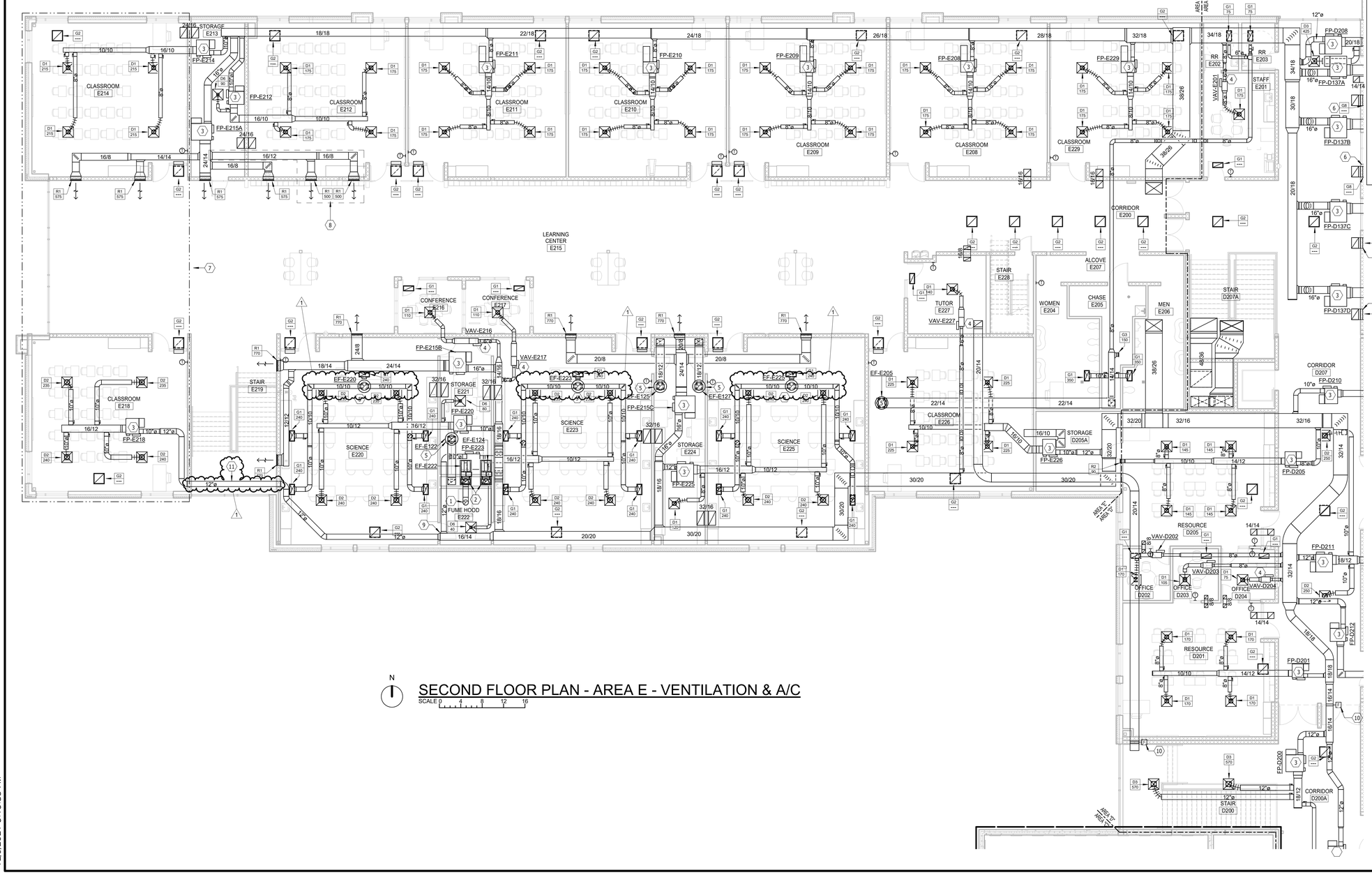
B. ALL EXPOSED DUCTWORK SHALL BE DUCTMATE OR TDC. EXPOSED DUCTWORK SHALL BE PAINT GRIP TYPE EXCEPT IN MECHANICAL ROOMS.

C. COORDINATE THERMOSTAT LOCATIONS WITH OTHER TRADES AND OWNER. THERMOSTATS IN COMMON AREAS SHALL BE FLAT PLATE STAINLESS STEEL SENSOR.

D. RETURN AIR BOOTS SHALL BE CONSTRUCTED OF 24 GAUGE INSULATED DUCTWORK. SEE DETAIL. PROVIDE ON ALL R/A AND TRANSFER AIR GRILLES.

VENTILATION NOTES

1 12"Ø 316 S.S. 18 GAUGE E/A DN TO FUME HOOD. SEAL JOINTS AIR TIGHT. FUME HOOD BY G.C.
2 UTILITY SET FAN ON ROOF. MOUNT FAN ON ROOF CURB.
3 FAN POWERED VAV TERMINAL UNIT WITH RE-HEAT COIL INSTALLED ABOVE CEILING. PROVIDE SOUND ATTENUATION BOOT. (TYP)
4 SHUT OFF TYPE VAV TERMINAL WITH RE-HEAT COIL INSTALLED ABOVE CEILING. (TYP)
5 PRV INSTALLED ON ROOF WITH FULLY INSULATED ROOF CURB.
6 SIDEWALL RETURN AIR GRILLE FOR AIR TRANSFER MNTD IN BLOCK COURSING APPROX. 25'-8" AFF. PROVIDE SOUND BOOT ELBOW UP IN PLENUM SPACE.
7 MECHANICAL ITEMS INSIDE DASHED AREA ARE PART OF ADD ALT.#1. OMIT FP-E114, FP-E118, FP-E214, FP-E218 AND ASSOCIATED DUCTWORK AND ACCESSORIES FROM BASE BID.
8 MECHANICAL ITEMS INSIDE DASHED AREA ARE PART OF BASE BID. OMIT IF ALT.#1 IS ACCEPTED.
9 CAP AT THIS LOCATION FOR BASE BID.
10 FIRE DAMPER. INSTALL PER MANUFACTURERS INSTALLATION INSTRUCTIONS
11 EXPOSED SPIRAL DUCT THRU CORRIDOR SHALL BE DOUBLE WALL CONSTRUCTION.



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SECOND FLOOR PLAN - AREA E - VENTILATION & A/C

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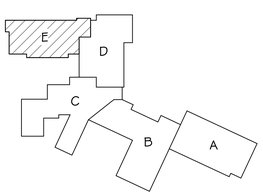

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project: **HARRISBURG HS - 9TH GRADE ACADEMY**

SECOND FLOOR PLAN - AREA E - VENTILATION & A/C

number 1002.2904.20
date 11-19-21
revision
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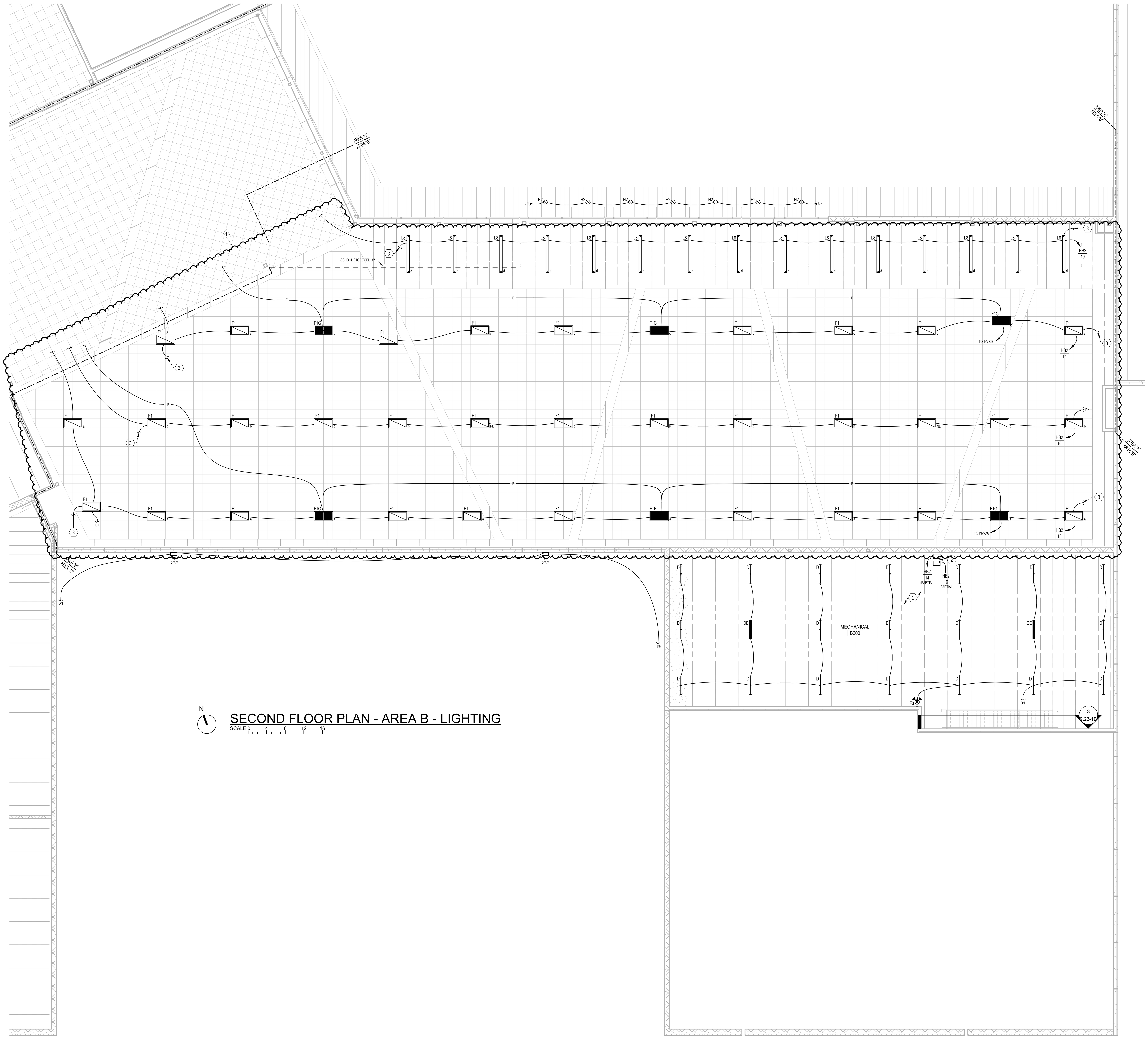
NO.	DATE	DESCRIPTION
1	12-10-21	ADDM #2

8.40-2E

12/9/2021 5:15:38 PM



SECOND FLOOR PLAN - AREA B - LIGHTING

SCALE 0 4 8 12 16

ELECTRICAL NOTES

1. COORDINATE LIGHTING INSTALLATION WITH MECHANICAL EQUIPMENT, SHIFT AS NECESSARY.
2. EMERGENCY LIGHTING INVERTERS "INV-CA" (EQUAL TO EMERGI-LITE EMIU-720) AND "INV-CB" (EQUAL TO EMERGI-LITE EMIU-720).
3. TO SWITCH AT ENTRY TO ROOM.

GENERAL SHEET NOTES

A. SEE AV DRAWINGS (BY REACH COMMUNICATIONS) FOR ADDITIONAL SCOPE WORK.

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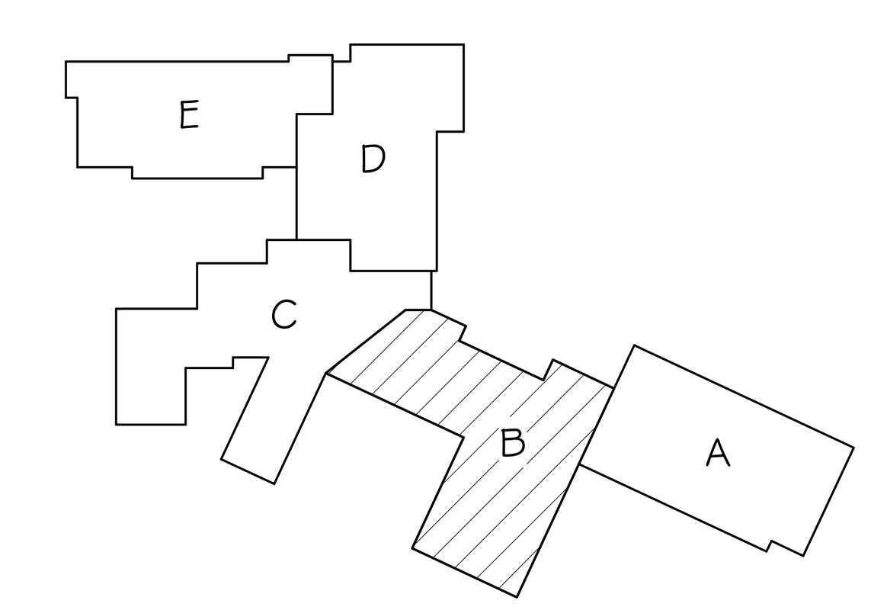
project **HARRISBURG HS - 9TH GRADE ACADEMY**

sheet contents **SECOND FLOOR PLAN - AREA B - LIGHTING**



KEYPLAN

number 1002.2904.20
date 11-19-21
revision
drawn ADP checked BJS

NO.	DATE	DESCRIPTION
1	12-10-21	ADDM E2

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ELECTRICAL NOTES

1. COORDINATE LIGHTING INSTALLATION WITH MECHANICAL EQUIPMENT, SHIFT AS NECESSARY.
2. LETTER INDICATES 0-10V DIMMING ZONE (CONTROLLED BY LRP), TYPICAL IN SMALL THEATER.
3. VIA LRP-13 AND INVERTER "INV-T".
4. TO SWITCH AT ENTRY TO ROOM.

GENERAL SHEET NOTES

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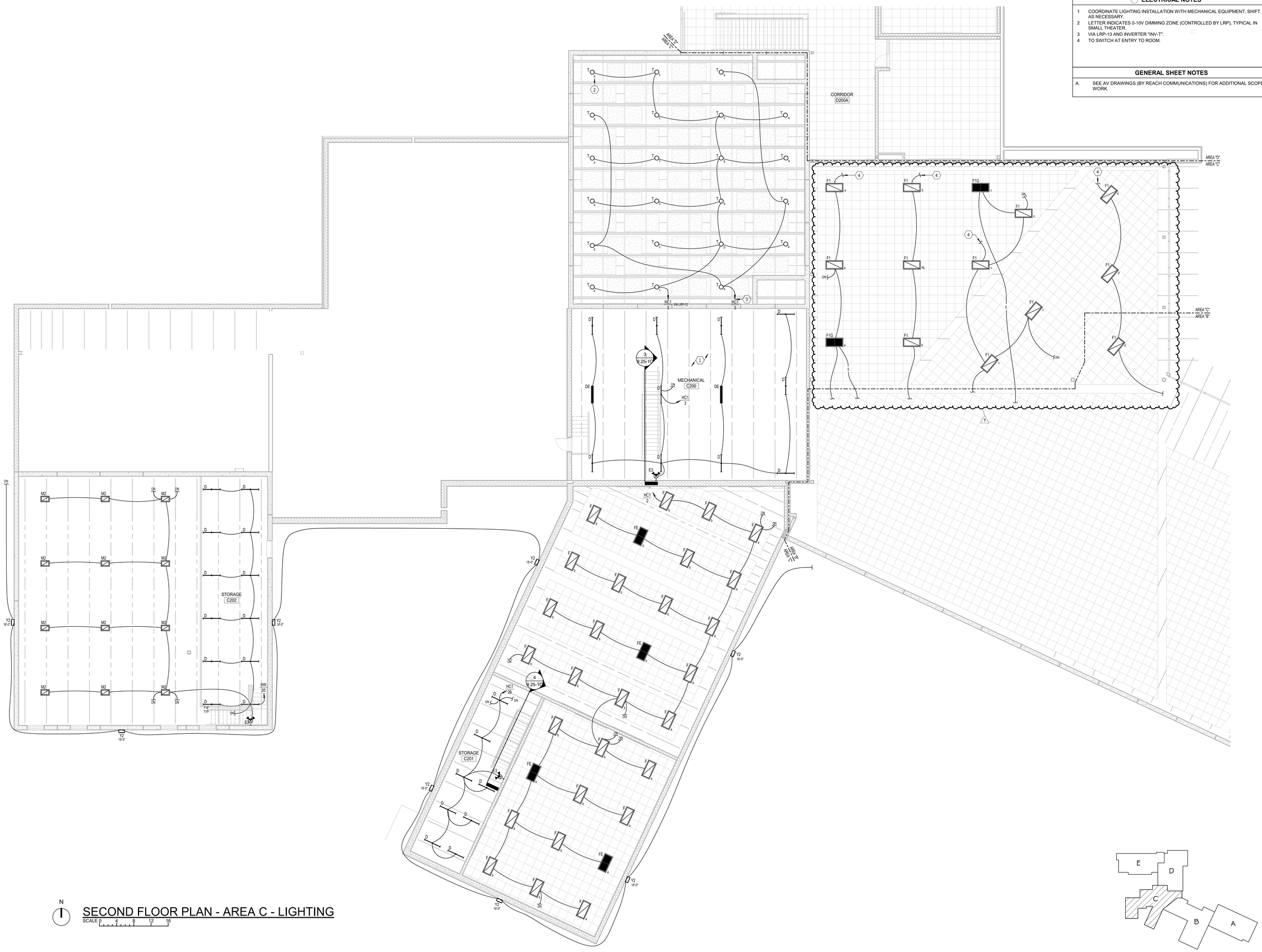

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SECOND FLOOR PLAN - AREA C - LIGHTING

SCALE 0 4 8 12 16

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9.36-2C

12/10/2021 2:30:22 PM