

MECHANICAL SPECIFICATIONS

- 1) Provide all heating, ventilation and air conditioning items indicated on the drawings, described in this specification or required for a complete and proper installation.
- 2)Comply with all pertinent codes, ordinances and regulations. Refer to website for Dept. of Community Affairs for current Codes Editions.
- 3)The contractor shall not attempt to precisely scale dimensions from these drawings to obtain construction dimensions and clearances. The contractor shall verify all actual dimensions on clearances. Although these plans are diagrammatic in nature, they shall be followed as closely as site conditions, new construction, and work by other trades shall permit. Deviations from these drawings, which are required to conform to the available space or the actual building construction, shall be made at no additional cost to the owner.
- 4)Furnish without extra charge, any additional material and labor required to comply with the above codes and standards, even though the work may not be described in the contract documents. Where the requirements of the contract documents exceed the requirements of the above codes and standards, the contract documents shall take precedence.
- 5)All equipment and material shall be new and of first quality. Equipment and material shall be the same or equal to the basis of design listed on these drawings and shall be UL listed.
- 6)Cooperate and coordinate with other trades in order that all systems in the work may be installed in the best arrangement.
- 7)Examine the areas and conditions under which work of this section will be installed. Correct conditions detrimental to the proper and timely completion of the work. Notify Architect of any discrepancies. Do not proceed until unsatisfactory conditions have been corrected.
- 8)Avoid interference with structure, and with work of other trades. Install all equipment per manufacturer's instructions. Install accessible parts, including equipment, coils, valves, dampers, controls, and filters with adequate clearance for inspection, adjustments, repair and replacement.
- 9)All other materials not specifically described but required for a complete and proper installation shall be as selected by the contractor subject to acceptance by the Engineer.
- 10) All ductwork shall be fabricated from galvanized sheet metal duct and conform to SMACNA "HVAC Duct Construction Standards–Metal and Flexible. Seal all joints in ductwork with mastic sealant.
- 11) Flexible duct: Flexmaster; Atco UPC#36(R–6.0); Atco UPC#31 (R–8) or Thermaflex, Type 3, insulated. 5'–0" Maximum length unless noted otherwise. Class 1 rating with R–value of 6.0 when located inside building insulation envelope and R–8 when located outside building insulation envelope. Install with no more than 135 degrees maximum of total bends per run. Maximum individual bend shall not exceed 45 degrees each. Support at five feet on centers with hangers having at least 2–inches of width at duct contact points. Flexible connectors shall not pass through any wall floor or ceiling weather rated or not. Provide 36–anchors of metal duct at penetration of draft stops, fire walls and smoke walls.
- 12) Duct Liner: Owens Corning Aeroflex Plus, or equivalent. Incombustible glass fiber complying with ASTM C 1071; flexible blanket; impregnated surface and edges coated with acrylic polymer shown to be fungus and bacteria resistant by testing to ASTM G 21. Apparent Thermal Conductivity: Maximum of 0.31 at 75 degrees F. Service Temperature: 250 degrees F. Density: 1.5 pounds/cubic foot. Install using adhesive (50% coverage) and galvanized steel fasteners with welded press-on head Thickness: 1–inch.
- 13) Condensate drain piping shall be ASTM D2665 PVC with solvent welded fittings. Drain piping shall be no smaller than the drain connection size on equipment. Slope at 1/8 inch per foot continuously toward drains. All indoor condensate drain piping shall be insulated with preformed flexible plastic cellular foam. All outdoor condensate drain piping shall be primed and painted with a coating system recommended by the piping manufacturer for protection against deterioration from weather and UV–light exposure. All piping shall be adequately supported to maintain proper slope and avoid sagging.
- 14) Refrigerant piping shall conform to manufacturer's recommendations and installation instructions. Refrigerant piping shall be ASTM B280 Type ACR or ASTM B88 Type L drawn copper tubing with wrought copper fittings. Insulate suction line with ½" thick flexible foamed plastic cellular foam (Armofoam or equivalent). All piping shall be adequately supported. Insulation installed outdoors shall be painted with two coats of Armacoil WB coating or equivalent. Refrigerant pipes shall be installed in accordance with ASHRAE standard 15–2022 section 9.12 and shall be tested in accordance with ASHRAE standard 15–2022 section 9.13. Contractor shall issue a letter to design team stating that refrigerant pipes have been installed and tested under the referenced sections. Contractor shall refer to ASHRAE standard 15–2022 sections 9.10 and 9.11 for additional information regarding refrigerant piping. Penetration of refrigerant pipes shall be protected with a through penetration protection means. The through penetration protection shall be the same or higher rating than the assembly.
- 15) Thermostats: Provide 24 volt, programmable 24 hour, 7 day thermostat to control heating stages in sequence with delay between stages and supply fan to maintain temperature setting. For Heat Pumps include system selection switch heat–off–cool and fan control switch (auto–on), emergency heat switch (auxiliary/emergency heat indicator lights).
- 16) Provide fire and smoke rated flexible connections between fans and ducts. Material shall comply with NFPA 90A requirements for material in supply air stream.
- 17) Install all equipment in accordance with manufacturer's instructions and recommendations including clearances recommended for proper operation or service. All filters and serviceable parts shall be readily accessible.
- 18) Indoor duct insulation: Foil–faced fiberglass, Owens Corning type 75 or equal, 2.2" thick(R–8), unless the insulated duct is outside building insulation envelope (attic, crawlspace or unconditioned space) in which case the duct insulation thickness shall be 3" thick(R–8). Duct shall have a flame spread rating of not more than 25 and smoke developed rating of not more than 50. Glass–Fiber Insulation: All service duct wrap with foil scrim and having backing and a k–value of 0.30 at 75° F mean temperature and an average maximum density of 0.75 lb/cu. ft.
- 19) All supply, return, exhaust and outside air ducts shall be insulated. Exhaust ducts shall be installed with a 1/8" slope to outside. Install acoustical duct liner on the interior surface of the first five (5) linear feet of supply duct downstream and the last five (5) linear feet of return duct upstream of all air handlers. Insulate the concealed tops of all ceiling mounted supply air diffusers with foil–faced fiberglass, 1.5#/cubic foot density, 2" thick. Seal edges to ceiling grid with foil faced tape to provide vapor tight seal.
- 20) All low pressure duct branches shall contain manual balancing dampers. Manual balancing dampers shall also be installed in the continuation of the main, if the main duct is smaller or the same size as the branch duct, or if the continuation of the main serves only one device.
- 21) Make all duct elbows right angle type with single –thickness turning vanes or construct with centerline radius 1–1/2 times the duct width.
- 22) Duct sizes shown on plans are clear, interior dimensions. Duct sizes shown shall be enlarged to allow for liner at locations of interior liner.
- 23) Do not cut into or reduce the size of any structural member without the permission of the Architect.
- 24) Provide weather–proof flashing at all duct and pipe penetrations through the building walls and roof. As a minimum, flashings shall be designed and installed in accordance with SMACNA standards. Flashings shall be guaranteed weatherproof.
- 25) Support all HVAC units, ductwork, piping and other appurtenances from structure, provide vibration isolation at all fans which are not internally isolated. Provide hanger rod with built in rubber–in–shear isolator. Between drain pan and unit provide 4 each rubber–in–shear isolator. Do not attach vibration isolator to drain pan. Do not screw or drive fasteners into non–structural components such as roof decks or non–load bearing walls.
- 26) Thoroughly clean all components and remove all dirt, scale, oil, and other foreign substances. Provide clean air filters for all equipment.
- 27) Perform all tests necessary to demonstrate the integrity of the complete installation to the approval of the Engineer and all other authorities having jurisdiction. Make all adjustments necessary and balance the completed system in accordance with the data shown. Balance the systems in accordance with NEBB or AABC standards. Acceptable tolerances shall be minus ten percent to plus five percent of all measurements. Balancing shall be done by an independent licensed (by NEBB or AABC) TAB contractor. Make the following tests and submit reports to the Architect:
- Airflow rate at each supply, return and exhaust outlet or inlet.
 - Total airflow rate and total static pressure for each supply and exhaust fan. Test exhaust fans with room doors closed.
 - Motor speed, for multiple speed fans (e.g. high, medium, low).
 - For direct drive fans, provide speed settings and actual rpm, including ECM motor driven fans
 - Provide fan and motor rpm for belt driven fans. Provide sheave sizes.
 - Outside airflow rate to each HVAC unit and supply fan.
 - Motor current (and compare with nameplate data) at all motors.
 - Entering and leaving air dry–bulb and wet–bulb conditions at all cooling coils.
 - Heat output capacity for unit heaters, heating devices and coils (kW or MBH).
 - Manufacturer, model and serial number for each piece of HVAC equipment scheduled on drawings.
 - Calibrate thermostats to be within one degree of actual temperature at thermostat.
 - Verify that all HVAC devices operate as scheduled or indicated (i.e. ON–OFF, 2–stage, variable output (SCR heaters), etc.
- 28) The entire system shall be warranted for a period of one (1) year beginning with Owner's acceptance of the work. Compressors shall include a minimum of five (5) year parts only warranty from the manufacturer. All labor and materials necessary to repair or replace the system or portions thereof, during that time shall be warranted for a period of one (1) year from the repair or replacement.
- 29) SUBMITTALS AND SUBMITTAL PROCEDURES:
- Contractor shall review the submittal data and check for the purpose of compliance with safety requirements, verification of dimensions, contract documents and methods and means prior to submitting to design professional. Contractor shall indicate approval by indicating such on the submittal.
 - Transmit each submittal electronically in PDF format.
 - Sequentially number submittal files and transmittal form. Revise submittals with original number and a sequential alphabetic suffix. File names shall describe item included in file.
 - Identify Project, the Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate on each copy. Each file shall include an index of items included in file.
 - Apply the Contractor's stamp, signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.
 - Submittal data for all items in project shall be submitted at one time. Submittal shall be divided into groups with file sizes not exceeding 6 MB. If there is unavailable data such as control submittal, etc., these may be submitted later if not doing so would delay project progress. Data shall include capacities, complete installation instructions, dimensional data and electrical data, BHP, motor HP, operating weights and load distribution at mounting points.

- Deliver submittals electronically to the Design Professional.
- Schedule submittals to expedite the Project, and coordinate submission of related items.
- For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.
- Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of the completed Work.
- Provide space for the Contractor and the Architect/ review stamps.
- When revised for resubmission, identify all changes made since previous submission.
- Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.
- Submittals not requested will not be recognized or processed.
- Provide files containing only related items (such as piping, equipment, air distribution, etc.)

30) Instruct Owner's representative in the operation of the systems, using the operation and maintenance manual as a teaching aid.

- 31) Provide an operation and maintenance manual. As a minimum, the manual shall contain:
- A complete list of all equipment and appurtenances with equipment designations (per Drawings), manufacturers, and catalog numbers.
 - Copies of manufacturers' brochures and instructions for operation and maintenance of all mechanical equipment, including replacement parts lists.
 - Typed system operation and maintenance instructions, including inspection, lubrication, and service instructions and schedules.
 - List of names, addresses and phone numbers of distributors of all equipment and appurtenances.
 - Manufacturers' warranties.

32) Horizontal Air Handler unit: Indoor fan–coil unit shall be direct–expansion horizontal heat pump air handler with electric strip heat suspended from structure with auxiliary drip pan and condensate drain. Provide float switch in drip pan to shut down unit if pan begins to fill. Unit shall be complete with cooling coil, fan, fan motor, piping connectors, electrical controls, microprocessor control system, and integral temperature sensing. Cabinet shall be fully insulated for improved thermal and acoustic performance. Condensate pan shall have internal trap and auxiliary drip pan under coil header. Provide condensate trap recommended by manufacturer. Air filters shall be 1 inch thick glass fiber, disposable type arranged for easy replacement. Provide number of stages as scheduled. Provide condensate overflow switch (Rectorsed Safe–T–Switch Model SSI or equivalent) wired to shut unit down in case of condensate overflow.

33) Vertical Air Handler unit: Indoor fan–coil unit shall be direct–expansion vertical heat pump air handler with electric strip heat mounted on plenum with auxiliary drip pan and condensate drain. Provide float switch in drip pan to shut down unit if pan begins to fill. Unit shall be complete with cooling coil, fan, fan motor, piping connectors, electrical controls, microprocessor control system, and integral temperature sensing. Cabinet shall be fully insulated for improved thermal and acoustic performance. Condensate pan shall have internal trap and auxiliary drip pan under coil header. Provide condensate trap recommended by manufacturer. Air filters shall be 1 inch thick glass fiber, disposable type arranged for easy replacement. Provide number of stages as scheduled. Provide condensate overflow switch (Rectorsed Safe–T–Switch Model SSI or equivalent) wired to shut unit down in case of condensate overflow.

34) Indoor, direct–expansion, wall–mounted fan coil. Unit shall be complete with cooling/heating coil, fan, fan motor, piping connectors, electrical controls, microprocessor control system, and integral temperature sensing. Unit shall be furnished with integral wall mounting bracket and mounting hardware. Cabinet discharge and inlet grilles shall be attractively styled, high–impact polystyrene. Cabinet shall be fully insulated for improved thermal and acoustic performance. Fan shall be tangential direct–drive blower type with air intake at the top of the unit and discharge at the bottom front. Automatic, motor–driven vertical air sweep shall be provided standard. Air sweep operation shall be user selectable. The vertical sweep may be adjusted (using the remote control) and the horizontal air direction may be set manually. Coil shall be copper tube with aluminum fins and galvanized steel tube sheets. Fins shall be bonded to the tubes by mechanical expansion and golden hydrophilic pre–coated. A drip pan under the coil shall have a drain connection for hose attachment to remove condensate. Condensate pan shall have internal trap. Motors shall be open drip–proof, permanently lubricated ball bearing with inherent overload protection. Fan motors shall be 4–speed. Controls shall consist of a microprocessor–based control system which shall control space temperature, determine optimum fan speed, and run self–diagnostics. The temperature control range shall be from 62°F to 86°F (17°C to 30°C) in increments of 1°F or 1°C, and have 46°F Heating Mode (Heating Setback). The wireless or wired remote controller shall have the ability to act as the temperature sensing location for room comfort. Refer to schedule for preference on wired or wireless thermostat. The unit shall have the following functions as a minimum: An automatic restart after power failure at the same operating conditions as at failure. A timer functions to provide a minimum 24–hour timer cycle for system Auto Start/Stop. Temperature–sensing controls shall sense return air temperature. Indoor coil freeze protection. Wireless infrared remote control and/or Wired remote control as scheduled to enter set points and operating conditions. Automatic air sweep control to provide on or off activation of air sweep louvers. Dehumidification mode shall provide increased latent removal capability by modulating system operation and set point temperature. Fan–only operation to provide room air circulation when no cooling is required. Diagnostics shall provide continuous checks of unit operation and warn of possible malfunctions. Error messages shall be displayed at the unit. Fan speed control shall be user–selectable: high, medium, low, or microprocessor controlled automatic operation during all operating modes. Automatic heating–to–cooling changeover in heat pump mode. Control shall include deadband to prevent rapid mode cycling between heating and cooling. Indoor coil high temperature protection shall be provided to detect excessive indoor discharge temperature when unit is in heat pump mode. Unit shall have filter track with factory–supplied cleanable filters. Indoor fan motor to operate on 115V on model size 12 and on 208–230V on model sizes 09–36, as specified. Power is supplied from the outdoor unit. All units should have refrigerant lines that can be oriented to connect from the left, right or back of unit. Both refrigerant lines need to be insulated. The condensate pump shall remove condensate from the drain pan when gravity drainage cannot be used. Pump shall be designed for quiet operation. Pump shall consist of two parts: an internal reservoir/sensor assembly, and a remote sound–shielded pump assembly. A liquid level sensor in the reservoir shall stop cooling operation if the liquid level in the reservoir is unacceptable. Refer to schedule for providing condensate pump. Only provide condensate pump where indicated on schedule.

35) Small Split Condensing unit: Casing: House components in welded steel frame with galvanized steel panels with weather resistant, baked enamel finish. Mount contactors and controls in weatherproof panel provided with full opening access doors. Provide removable access doors or panels with quick fasteners. Compressor: Hermetically sealed, 3600 rpm maximum, resiliently mounted with positive lubrication and internal motor protection. Compressor: Hermetic reciprocating type or Hermetic scroll type. Condenser coils: Aluminum fins mechanically bonded to seamless copper tubing or all aluminum fins and tube. Air test under water to 425 psig, and vacuum dehydrate. Seal with holding charge of refrigerant. Coil Guard: Louvered or PVC coat steel wire. Fans and motors: Direct driven propeller type condenser fans with fan guard on discharge. Weatherproof motors suitable for outdoor use, single phase permanent split capacitor with permanent lubricated ball bearings and built in thermal overload protection. Fan Guard: PVC coat steel wire. Refrigerant circuit: For each refrigerant circuit, provide: Filter dryer liquid line. Suction accumulator. Suction and liquid line service valves and gage ports. Charging valve. Condenser pressure relief mechanism. Factory wired with single point power connection. Factory wired controls shall include contactor, high and low pressure cutouts, internal winding thermostat for compressor, control circuit transformer, non–cycling reset relay. Provide a surge capacitor and lightning arrester in unit cabinet for protection from power surges due to lightning and switching transients. Provide controls to permit operation down to 0 degrees F ambient temperature where scheduled to include: On/raise heater with thermostat. Heat pressure switch to cycle fan motors in response to refrigerant condensing pressure. Solid state control to vary speed of one condenser fan motor in response to refrigerant condensing pressure. Refer to Schedule on Drawings for additional specifications.

36) Air Source Heat Pumps (HP): outdoor–mounted, air–cooled split system outdoor section suitable for rooftop installation, consisting of a hermetic compressor, an air–cooled coil, propeller–type blow–thru outdoor fans, accumulator, full refrigerant charge, and control box. Unit shall function as the outdoor component of an air–to air cooling system and used in a refrigeration circuit matched to the indoor unit. Unit construction shall comply with ANSI/ASHRAE 15, latest revision, the NEC, and UL standards. Provide rail support system compatible with roofing system. Refer to Schedule on Drawings for additional specifications.

37) Provide a duct smoke detector on the supply duct of each air handling unit with design airflows exceeding 2,000 CFM, and where smaller air handling units have common return ductwork or plenum and total air flow exceeds 2,000 CFM. Install detector in accordance with the International Mechanical Code section 606 Smoke Detection Control System with Georgia Amendments 2018. Detectors shall be provided by the electrical/fire alarm subcontractor and shall be installed by the mechanical subcontractor. For other fans, such as exhaust fans with design airflows exceeding 2,000 CFM, coordinate with the electrical/fire alarm subcontractor to provide room or duct smoke detectors. Where no fire alarm system is installed in building provide smoke detector, audio visual annunciator and trouble indicator in an approved location. Duct smoke detector trouble conditions shall activate a visible or audible signal in an approved location and shall be identified as air duct detector trouble. Provide contacts to automatically shut down all such fan motors when smoke is detected, to indicate detector status to the fire alarm system, and to require a manual reset of the shut–down relay.

38) Fire damper; curtain type with blades outside air stream except when located behind grilles when blades may be in air stream. Provide 1–1/2 hr class unless noted otherwise, vertical or horizontal mounting as shown on drawings with re–placeable, rated, fusible link. Duct–Mounted Access Doors: Provide access doors for access to fire or smoke dampers having fusible links, doors shall be pressure relief access doors; and shall be outward operation for access doors installed upstream from dampers and inward operation for access doors installed downstream from dampers adjacent to and close enough to fire or smoke dampers, to reset or reinstall fusible links. Fabricate access panels according to SMACNA's "HVAC Duct Construction Standards – Metal and Flexible"; Figures 2–10, "Duct Access Doors and Panels," and 2–11, "Access Panels – Round Duct." Contractor shall provide fire damper at all rated assemblies. Contractor shall coordinate rated assemblies with architectural plans.

39) Grilles, Registers and Diffusers: Grilles, registers, and diffusers as indicated on the drawings have been selected from the catalog of the manufacturer noted as the basis of design. Sizes, types, and performance of the devices to be provided must be coordinated to insure conformity with design basis. Sidewall supply grilles and registers shall have vertical front blades; sidewall return grilles shall have horizontal blades. Grilles and registers with borders shall have felt or rubber gaskets cemented to the back face and holding screws not over 18 inches on centers around the perimeter. Holding screws shall be counter–sunk to fit flush with face of grille or register. Grilles passing air through partitions shall be as described for wall return grilles, one for each side of partition. Register dampers shall be of the gang–operated, opposed blade type, operated through the face of the register. Operating mechanism shall not project through the register face. Mounting frame shall be coordinated with architectural reflected ceiling plans. Construction shall be of steel or aluminum as scheduled, with frame type to match ceiling construction. Sidewall supply grilles and registers shall be double–deflection type, with vertical front vanes. Construction shall be of steel, with 3/4 inch blade spacing. Return air grilles, return air registers, exhaust grilles, exhaust registers and transfer air grilles located in ceilings shall be constructed of aluminum with "egg–crate" design, with 1/2 inch x 1/2 inch x 1/2 inch grids. Frame style shall be compatible with ceiling construction. Install wall grilles and registers with horizontal edges parallel to ceiling. Convector diffusers at roof top units shall have paint–ready exterior finish and 1–inch lined supply and return ducts that transition to diffuser size within 24 inches vertically of the bottom of roof top unit curb.

40) Basic motor requirements: basic requirements apply to mechanical equipment motors, unless otherwise indicated. Motors 1/2 hp and larger: Polyphase, unless otherwise scheduled. Motors smaller than 1/2 hp: single phase. Frequency rating: 60 Hz. Service factor: according to NEMA MG 1, general purpose continuous duty, design type "B." Enclosure: open drip–proof, unless otherwise indicated. Efficiency: motors shall have a higher efficiency rating than industry standard average motor as delineated in IEEE Standard 112, test method 13. Thermal protection: where indicated or required, internal protection automatically opens power supply circuit to motor when winding temperature exceeds a safe value calibrated to temperature rating of motor insulation. Thermal protection device automatically resets when motor temperature returns to normal range, unless otherwise indicated.

41) Hangers and supports: Building attachments: concrete inserts or structural–steel fasteners appropriate for building materials, and beam clamps. Hanger materials: galvanized, sheet steel or round, threaded steel rod. Hangers installed in corrosive atmospheres: electrogalvanized, all–thread rod or galvanized rods with threads painted after installation. Straps and rod sizes: comply with SMACNA's "HVAC Duct Construction Standards–Metal and Flexible" for sheet steel width and thickness and for steel rod diameters. Duct attachments: sheet metal screws, blind rivets, or self–tapping metal screws; compatible with duct materials. Trapeze and riser supports galvanized steel shapes and plates: steel shapes complying with ASTM A 36/A 36M.

42) Sealant materials: joint and seam sealants, general: the term "sealant" is not limited to materials of adhesive or mastic nature but includes tapes and combinations of open–weave fabric strips and mastics. Joint and seam tape: 2 inches wide; glass–fiber fabric reinforced. Joint and seam sealant: one–part, nonsag, solvent–release–curing, polymerized butyl sealant, formulated with a minimum of 75 percent solids. Flanged joint mastics: one–part, acid–curing, silicone, elastomeric joint sealants, complying with ASTM C 920, type S, grade NS, class 25, use 0.

43) Gravity Ventilators: Heavy gauge arched sheet aluminum with interlocking seams or spun aluminum with base for curb mounting. Provide matching pre–fabricated roof curb and bird screen. Provide normally closed gravity backdraft damper.

44) All HVAC equipment such as AH, CU, EF, AC, HP, and RTU shall have visible nameplates with their associated marks on them.

45) Ceiling Ventilator shall have corrosion resistant galvanized steel housing with four–point mounting capability. It shall be ducted to a cap on wall or roof using round ductwork. Blower assembly shall be removable; have a centrifugal–type blower wheel and a permanently lubricated motor designed for continuous operation. Non–metallic damper/duct connector shall be included. Air delivery shall be no less than scheduled and sound level no greater than scheduled. All air and sound ratings shall be certified by HW. Ceiling ventilator shall be Energy Star® qualified and have an energy efficient permanent split capacitor motor.

46) The project shall be constructed in strict adherence to drawings and specifications. Constructability questions shall be addressed, in writing, to the Architect and Engineer of Record for resolution. Any deviations from these Drawings and Specifications documents without written consent from the Engineer of Record shall become the responsibility of the person or entity making the changes. That person or entity shall become solely responsible for any claims resulting from such changes.

47) Acceptable Manufacturers are:

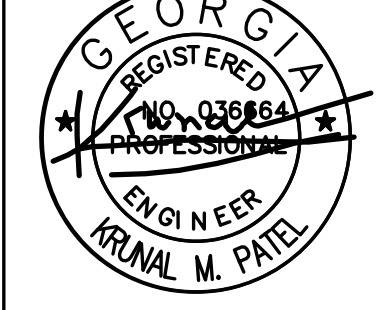
Air Handlers & Heat Pumps, Packaged Units:	Carrier, Trane, York, Lennox
Small Split Units:	Mitsubishi, Dakin, Hitachi, Toshiba
Grilles, Registers & Diffusers:	Titus, Nailor, Price, Tuttle & Bailey, Kruger, Metal Aire(Color selection submitted to Architect)
Fans:	Twinn–City, Cook, Greenheck, PennBarry, Acme, American CoolAir, Captive Air, Salar & Palau
Louvers/Dampers/Fire Dampers:	United Enertech, Greenheck, Ruskin, Arrow United, Lloyd Industries, Air Balance (Color selection submitted to Architect)
Controls–provided with unit:	Provide thermostats by same manufacturer as equipment

ph
design

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SEAL



RENOVATIONS AND MODIFICATIONS FOR
CROSSROADS CHRISTIAN COUNSELING
CENTER, INC.
717 NORTH AVENUE
MACON, GEORGIA 31211

REVISION	DATE	DESCRIPTION

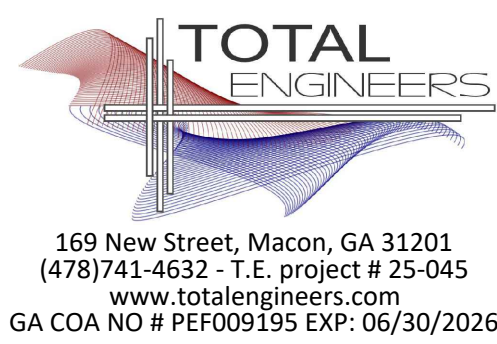
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MECHANICAL
SPECIFICATIONS

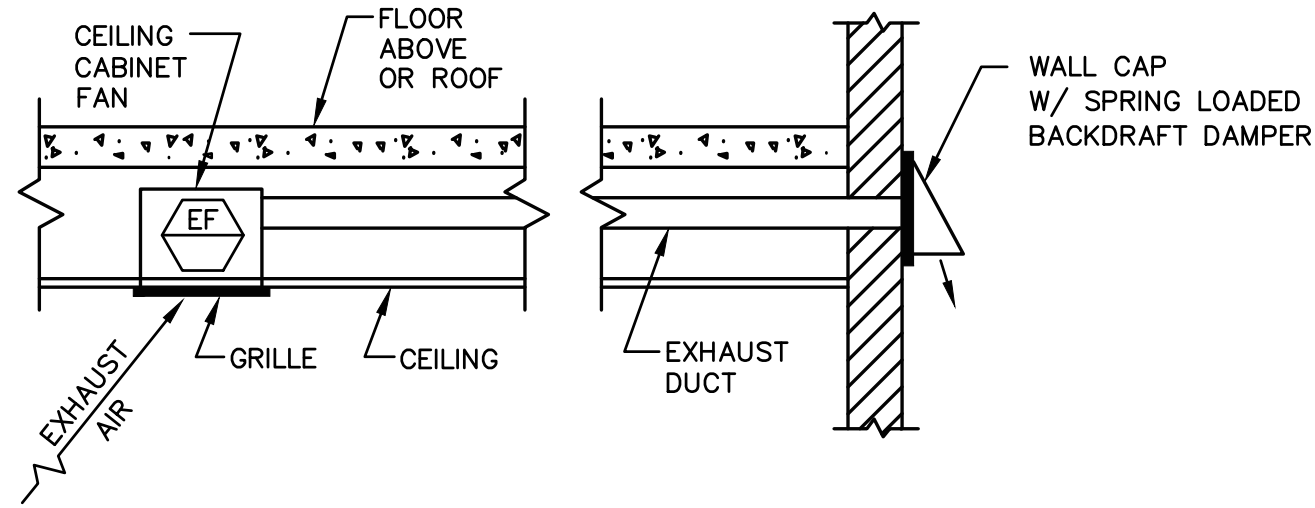
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DATE
09-17-2025

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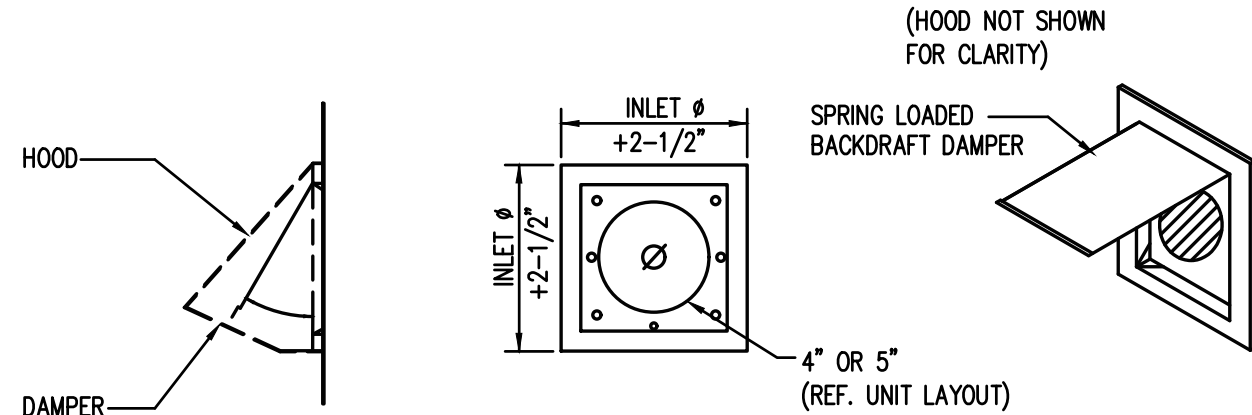
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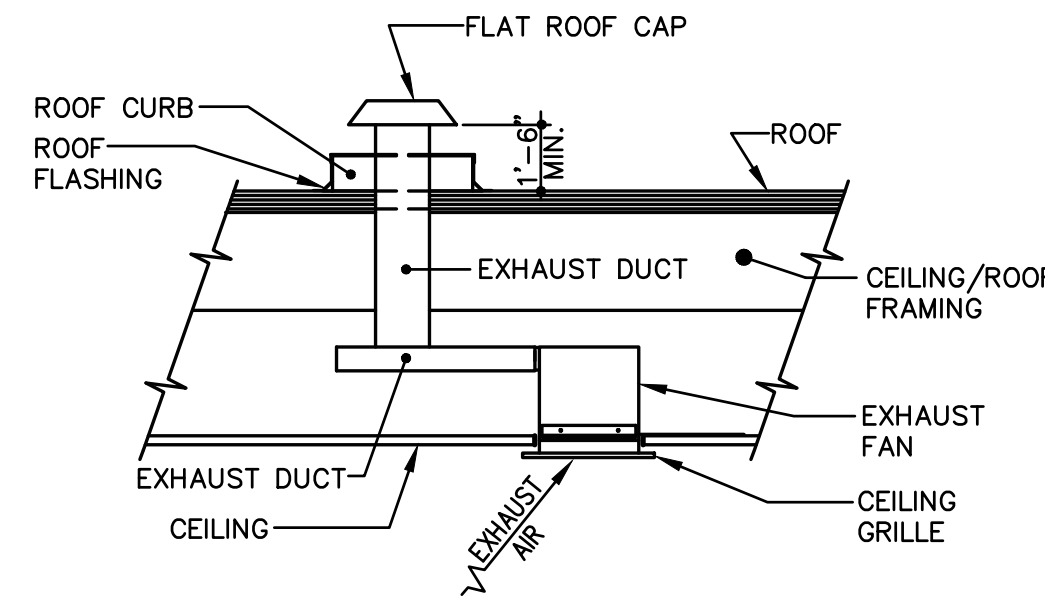
NOTE: 1) WALL CAP SHALL HAVE SPRING LOADED BACKDRAFT DAMPER WITH NEOPRENE SEAL AROUND IT.

1 CEILING EXHAUST FAN W/SIDEWALL DISCHARGE-DETAIL
SCALE: N.T.S.

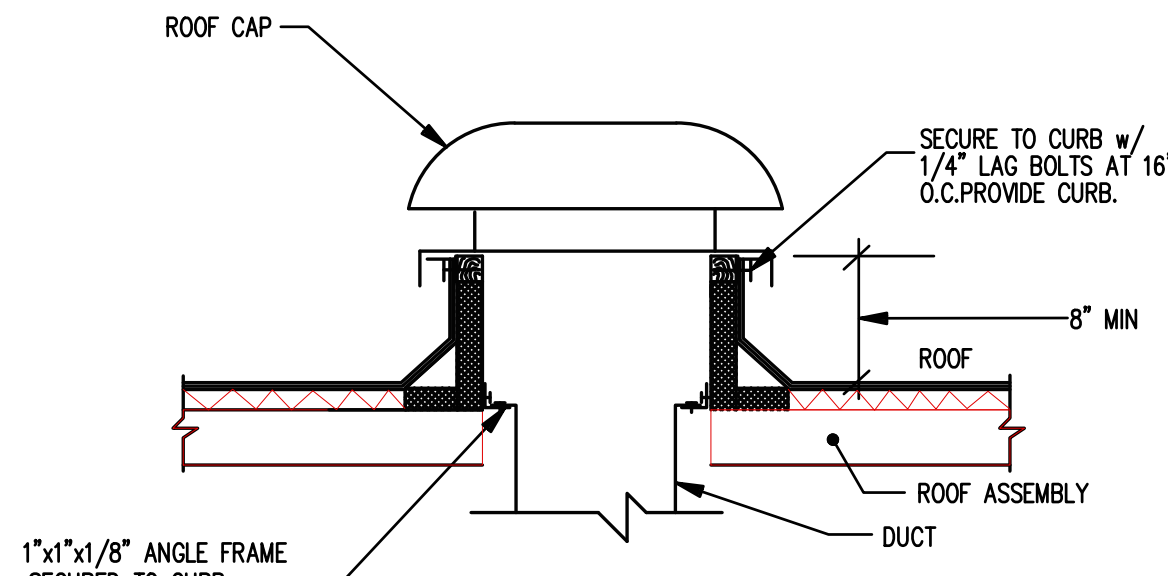


MATERIAL: ASTM-A653 CS B BONDERIZED AND PHOSPHATIZED
26 GAUGE GALVANIZED STEEL

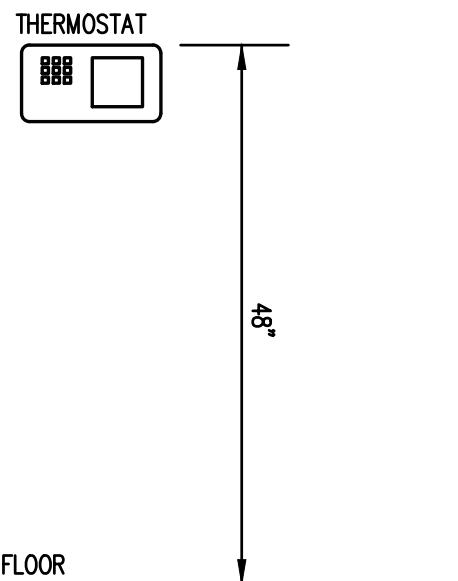
2 VENT CAP DETAIL
SCALE: N.T.S.



3 CEILING EXHAUST FAN DETAIL
SCALE: N.T.S.



4 ROOF CAP DETAIL
SCALE: N.T.S.



5 T-STAT DETAIL
SCALE: N.T.S.

MECHANICAL SYMBOLS & ABBREVIATIONS LEGEND

	NEW PIPE, DUCTWORK OR EQUIPMENT
	DUCT SIZE: FIRST DIMENSION IS SIDE DRAWN
	FLEXIBLE ROUND DUCTWORK
	FIRE DAMPER, SMOKE DAMPER, SMOKE DETECTOR
	CEILING SUPPLY DIFFUSER
	CEILING RETURN OR EXHAUST AIR
	S.A. DUCT OUT OF TU BOX WITH DUCT LINER FOR THR FIRST FIVE FEET OF DUCT OUT OF TU BOX
	SIDEWALL REGISTER OR GRILLE
	CHANGE IN PIPE OR DUCT SIZE OR SHAPE
	REFRIGERANT PIPING
	CONDENSATE OR OTHER DRAIN PIPING
	ELBOW TURNED DOWN OR TURNED UP IN PIPING
	THERMOSTAT, ARROW SHOWS CONTROL WIRING PATH
	TIME CLOCK
	DIAMETER
	UNDER-CUT DOOR 3/4", UNLESS OTHER SIZE NOTED
	INDICATES EQUIPMENT ON PLANS; TOP ITEM SHOWS TYPE OF EQUIPMENT AND BOTTOM ITEM SHOWS SPECIFIC MARK NUMBER
	ITEM IN HEXAGON SHOWS AIR DEVICE MARK NUMBER, ITEM ABOVE LINE SHOWS NECK SIZE, ITEM BELOW LINE SHOWS AIR FLOW THROUGH DEVICE, AND NUMBER IN FRONT SHOWS QUANTITY IF MORE THAN ONE
	ABOVE FINISHED FLOOR
	AIR HANDLING UNIT
	BYPASS DAMPER
	BTUH, MBH
	CAPACITY
	CFM
	CEILING
	CONDENSING UNIT
	DB, WB
	EA, EG
	EF
	EXT SP
	HP
	MVD, VD
	OA
	RA, RG
	RTU
	SA
	SF
	VAC, PH
	W, KW
	UH
	AUDIBLE/VISUAL ALARM DEVICE CONNECTED TO DUCT SMOKE DETECTOR
	ACCESS DOOR
	RADIUS ELBOW (R=1.5)
	VANED ELBOW
	MANUAL VOLUME DAMPER (MVD), MOTOR OPERATED DAMPER (MOD)
	X INDICATES SECTION NUMBER/XX INDICATES ON WHICH DRAWING SECTION APPEARS
	CONNECT NEW TO EXISTING
	TERMINATION POINT OF DEMOLITION
	OCCUPANCY SENSOR, ENERGIZE UPON OCCUPANCY AND PROVIDE 15 MIN. DELAY TO "OFF" AFTER NO OCCUPANCY IS SENSED

HEAT PUMP AIR HANDLING UNIT SCHEDULE

MARK	SUPPLY AIR CFM	OUTSIDE AIR CFM	EXT. SP. IN. W.G.	EVAP. FAN HP	EVAP. COIL ENTERING AIR DESIGN CONDITIONS		EVAP. COIL LEAVING AIR DESIGN CONDITIONS		SYSTEM COOLING MAX. REQUIREMENTS (MBH)		SUPPLY HEAT KW	WEIGHT (LBS)	POWER VAC/PH	BASIS OF DESIGN CARRIER	NOTES
					DB °F	WB °F	DB °F	WB °F	TOTAL	SENSIBLE					
AH-1	1,500	210	0.60	3/4	78.2	65.3	55.0	54.0	44.8	34.1	7.5	250	208/1	F14BNXC4RL	1:2:3:4:5:6:7:8
AH-2	1,400	200	0.60	3/4	78.2	65.3	55.0	54.0	44.8	34.1	7.5	250	208/1	F14BNXC4RL	1:2:3:4:5:6:7:8:10:11
AH-3	1,400	200	0.60	3/4	78.2	65.3	55.0	54.0	44.8	34.1	7.5	250	208/1	F14BNXC4RL	1:2:3:4:5:6:7:8
AH-4	1,050	125	0.60	1/2	77.1	64.3	55.0	54.0	32.6	25.0	7.5	250	208/1	F14BNXC36L	1:2:3:5:6:7:8:9
AH-5	700	125	0.60	1/2	78.2	65.3	55.0	54.0	22.4	16.9	7.5	250	208/1	F14BNXB24L	1:2:3:5:6:7:8:9
AH-6	700	NAT	0.60	1/2	75.0	62.5	55.0	54.0	22.4	16.9	6.0	250	208/1	F14BNXB24L	1:2:3:5:6:7:8:9

- UNIT AT 208/1/6 AUXILIARY HEATER AT 208/1/6. UNIT SHALL HAVE SINGLE POINT CONNECTION. AIR-HANDLING UNIT WITH ECM MOTOR.
- VERIFY ELECTRIC POWER REQUIREMENTS WITH ELECTRICAL PLANS, WHICH TAKE PRECEDENCE OVER THIS INFORMATION.
- PROVIDE AIR FILTERS, DUCT CONNECTIONS AND VIBRATION ISOLATION. PROVIDE PROGRAMMABLE THERMOSTAT AND SUPP. ELEC. HEAT MODULE CONNECTED TO UNIT FOR SINGLE POINT OF CONNECTION.
- PROVIDE CONDENSATE TRAP(S) AS RECOMMENDED BY MANUFACTURER AND ROUTE CONDENSATE PIPING TO MOP SINK IN 225 JANITOR.
- PROVIDE AUXILIARY DRAIN PAN UNDER THE AIR HANDLERS WITH FLOAT ACTIVATED SWITCH TO SHUT THE UNIT DOWN IN CASE OF CONDENSATE OVERFLOW. REFER TO DETAIL PROVIDED.
- PROVIDE DUCT SMOKE DETECTOR IN SUPPLY AIR DUCT OF AIR-HANDLING UNIT.
- FLOAT ACTIVATED CONDENSATE SWITCH SHALL BE PROVIDED AND INSTALLED BY HVAC CONTRACTOR. DUCT SMOKE DETECTORS SHALL BE PROVIDED BY ELECTRICAL CONTRACTOR AND INSTALLED BY HVAC CONTRACTOR.
- PROVIDE COIL OUTLET SWITCH TO SHUT UNIT DOWN IN CASE OF CONDENSATE OVERFLOW. WIRE COIL OUTLET SWITCH IN SERIES WITH AUXILIARY CONDENSATE SWITCH LOCATED IN DRAIN PAN.
- PROVIDE CONDENSATE TRAP(S) AS RECOMMENDED BY MANUFACTURER AND ROUTE CONDENSATE OUTSIDE.
- CONTRACTOR MUST COORDINATE EXACT LOCATION OF DRAIN IN THE FIELD WITH PLUMBING CONTRACTOR. MECHANICAL MUST ROUTE CONDENSATE TO APPROPRIATE LOCATION OF DISPOSAL.
- THERMOSTAT AND SENSORS SHALL WORK TOGETHER TO GET AN AVERAGE TEMPERATURE OF OCCUPIED SPACES.

AIR COOLED HEATPUMP UNIT SCHEDULE

MARK	AHU SERVED	HEAT PUMP HEATING CAP (MBH)	SEER2	HSPF2	NOM. CAP. (TONS)	REFRIG	OA TEMP SUMMER (DB)	OA TEMP WINTER (DB)	WEIGHT (LBS)	POWER VAC/PH	BASIS OF DESIGN CARRIER	NOTES
HP-1	AH-1	32.2	16.5	8.1	4.0	R454B	96	23	350	208/1	25TPB748A003	1:2:3:4:5:6
HP-2	AH-2	32.2	16.5	8.1	4.0	R454B	96	23	350	208/1	25TPB748A003	1:2:3:4:5:6
HP-3	AH-3	32.2	16.5	8.1	4.0	R454B	96	23	350	208/1	25TPB748A003	1:2:3:4:5:6
HP-4	AH-4	23.8	15.2	8.1	3.0	R454B	96	23	350	208/1	25TPB736A003	1:2:3:4:5:6
HP-5	AH-5	15.8	16.5	8.1	2.0	R454B	96	23	350	208/1	25TPB724A003	1:2:3:4:5:6
HP-6	AH-6	15.8	16.5	8.1	2.0	R454B	96	23	350	208/1	25TPB724A003	1:2:3:4:5:6

- PROVIDE WITH DEFROST CONTROLS, LOW AMBIENT HEAD PRESSURE CONTROLS, AND ANTI-SHORT CYCLE TIMER. PROVIDE COIL GUARD.
- VERIFY ELECTRIC POWER REQUIREMENTS WITH ELECTRICAL PLANS, WHICH TAKE PRECEDENCE OVER THIS INFORMATION.
- PROVIDE LIQUID LINE SOLENOID, CRANKCASE HEATER, TXV, START CAPACITOR AND RELAY AS RECOMMENDED BY MANUFACTURER FOR LONG LINE APPLICATIONS.
- PROVIDE ROOF SUPPORT AS PER DETAIL PROVIDED.
- 2-STAGE COMPRESSOR UNIT.
- PROVIDE LONG LINE ACCESSORIES PER NOTE 3 WHERE REFRIGERANT PIPE LENGTHS EXCEEDS 80-EQUIVLENT FEET.

FAN SCHEDULE

MARK	CFM	EXT. SP IN. W.G.	DRIVE TYPE	MOTOR (HP/W)	MAX. SONES	POWER/PHASE	BASIS OF DESIGN	SERVES	NOTES
EF-1	140	0.25	DIRECT	128.0 W	2.0	115/1	GREENHECK SP-B150	222 MEN	1:2:3:4:5
EF-2	140	0.25	DIRECT	128.0 W	2.0	115/1	GREENHECK SP-B150	223 WOMEN	1:2:3:4:5
EF-3	70	0.25	DIRECT	20.0 W	1.3	115/1	GREENHECK SP-B90	225 JANITOR	1:2:3:4:5:6
EF-4	70	0.25	DIRECT	20.0 W	1.3	115/1	GREENHECK SP-B90	226 STAFF RESTROOM	1:2:3:4:5
EF-5	70	0.25	DIRECT	20.0 W	1.3	115/1	GREENHECK SP-B90	207 STAFF RESTROOM	1:2:3:4:5
EF-6	70	0.25	DIRECT	20.0 W	1.3	115/1	GREENHECK SP-B90	120 UNISEX RESTROOM	1:2:3:4:5
EF-7	70	0.25	DIRECT	20.0 W	1.3	115/1	GREENHECK SP-B90	121 UNISEX RESTROOM	1:2:3:4:5
EF-8	70	0.25	DIRECT	20.0 W	1.3	115/1	GREENHECK SP-B90	122 UNISEX RESTROOM	1:2:3:4:5
EF-9	70	0.25	DIRECT	20.0 W	1.3	115/1	GREENHECK SP-B90	117 UNISEX RESTROOM	1:2:3:4:5

- VERIFY ELECTRIC POWER REQUIREMENTS WITH ELECTRICAL PLANS, WHICH TAKE PRECEDENCE OVER THIS INFORMATION.
- FAN SHALL BE INTERLOCKED WITH LIGHTS SUCH THAT FAN COMES ON WHEN LIGHTS ARE ON. PROVIDE 15 MINUTE TIME DELAY.
- PROVIDE FACTORY SOLID STATE FAN SPEED CONTROLLER.
- DIRECT DRIVE, CENTRIFUGAL CEILING FAN. PROVIDE FACTORY SUPPLIED DISCONNECT, BACK DRAFT DAMPER AND MOTOR WITH THERMAL OVERLOAD.
- PROVIDE MANUFACTURER'S DESIGNER GRILLE.
- FAN SHALL BE CONTROLLED BY A SWITCH LOCATED IN ROOM FAN SERVES.

AIR DEVICE SCHEDULE

MARK	SERVICE	NECK SIZE	FACE SIZE	MATERIAL	TYPE	PATTERN	MOUNTING TYPE	LAYOUT BASIS	NOTES
S1	SUPPLY	SEE PLANS	24" X 24"	STEEL	SQUARE CONC.	4-WAY	LAY-IN	TMS	1:2:4
S2	SUPPLY	SEE PLANS	12" X 12"	STEEL	SQUARE CONC.	4-WAY	SURFACE	TMS	1:2:4
S3	SUPPLY	SEE PLANS	NECK+1-3/4"	STEEL	DOUBLE DEFLECTION REGISTER	2-WAY	SURFACE	300RS	1:2:4
S4	SUPPLY	SEE PLANS	24" X 24"	STEEL	SQUARE CONC.	4-WAY	SURFACE	TMS	1:2:4
R1	RETURN	SEE PLANS	24" X 24"	ALUMINUM	EGGGRATE	---	LAY-IN	50F	1:3
R2	RETURN	SEE PLANS	24" X 12"	ALUMINUM	EGGGRATE	---	LAY-IN	50F	1:3
R3	RETURN	SEE PLANS	NECK+1-3/4"	ALUMINUM	EGGGRATE	---	LAY-IN	350R	1:3

- PROVIDE STANDARD WHITE FINISH.
- INSULATE BACK OF DEVICE.
- PROVIDE FULL SIZE LINED SHEET METAL PLENUM ON TOP OF GRILLE FOR CONNECTION.
- BALANCE AIRFLOW TO QUANTITY SHOWN.
- PROVIDE FACE DAMPER IF NECK DAMPER IS UNAVAILABLE.

MINI SPLIT & HEAT PUMP FAN COIL SYSTEM SCHEDULE

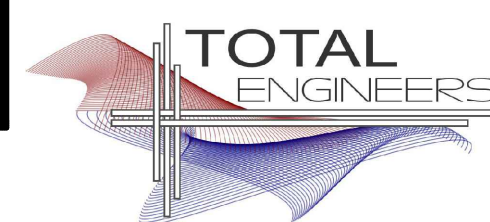
OUTDOOR UNIT MARK	INDOOR UNIT MARK	MIN COOLING MBH	MIN HEATING MBH @ 47°	SUPPLY AIR CFM	POWER VAC/PH	SEER2	HSPF2	CARRIER MODEL #		REF PIPES DIMENSIONS		SERVES	NOTES
								OUTDOOR	INDOOR	RL	RS		
HPU-1	ACU-1	18.0	18.0	635	208/1	23.5	10.8	37MARAQ18AA3	45MAHAQ18XA3	1/4	1/2	112 ELECTRICAL/STORAGE	1:2:3:4:5:6:7:8
HPU-2	ACU-2A	12.0	12.0	442	208/1	25.0	9.5	37MGRAQ24DA3	45MAHAQ12XA3	1/4	3/8	105 CONFERENCE	1:2:3:4:5:6:7:8:9
	ACU-2B	12.0	12.0	442	208/1				45MAHAQ12XA3	1/4	3/8	105 CONFERENCE	1:2:3:4:5:6:7:8:9
HPU-3	ACU-3A	12.0	12.0	442	208/1	25.0	9.5	37MGRAQ24DA3	45MAHAQ12XA3	1/4	3/8	123 WAITING	1:2:3:4:5:6:7:8:9
	ACU-3B	12.0	12.0	442	208/1				45MAHAQ12XA3	1/4	3/8	123 WAITING	1:2:3:4:5:6:7:8:9

- VERIFY ELECTRICAL POWER REQUIREMENTS WITH ELECTRICAL PLANS WHICH TAKES PRECEDENCE OVER THIS INFORMATION.
- MINI SPLIT SYSTEM MOUNTED ON WALL (SEE PLANS). PROVIDE MANUFACTURER'S WIRED REMOTE CONTROL(7 DAY PROGRAMMABLE) MODEL KSACN1401AAA.
- ROUTE CONDENSATE OUTSIDE.
- PROVIDE LONG LINE ACCESSORIES PER MANUFACTURER'S INSTRUCTIONS.
- PROVIDE DISCONNECT AND ELECTRICAL CONNECTION TO OUTDOOR UNIT PER MANUFACTURER'S INSTRUCTIONS.
- CONTRACTOR MUST COORDINATE EXACT LOCATION OF DRAIN IN THE FIELD WITH PLUMBING CONTRACTOR. MECHANICAL MUST ROUTE CONDENSATE TO APPROPRIATE LOCATION OF DISPOSAL.
- PROVIDE FLOAT ACTIVATED CONDENSATE PUMP TO PUMP CONDENSATE DOWN TO DRAIN WHERE REQUIRED.
- PROVIDE RECTOR SEAL SS301E CONDENSATE OVERFLOW SWITCH TO SHUT UNIT DOWN IN CASE OF CONDENSATE OVERFLOW.
- MULTI-ZONE HEAT PUMP UNIT. ONE HEAT PUMP CONDENSING UNIT SERVING MULTIPLE FAN-COIL UNITS LOCATED INSIDE BUILDING.

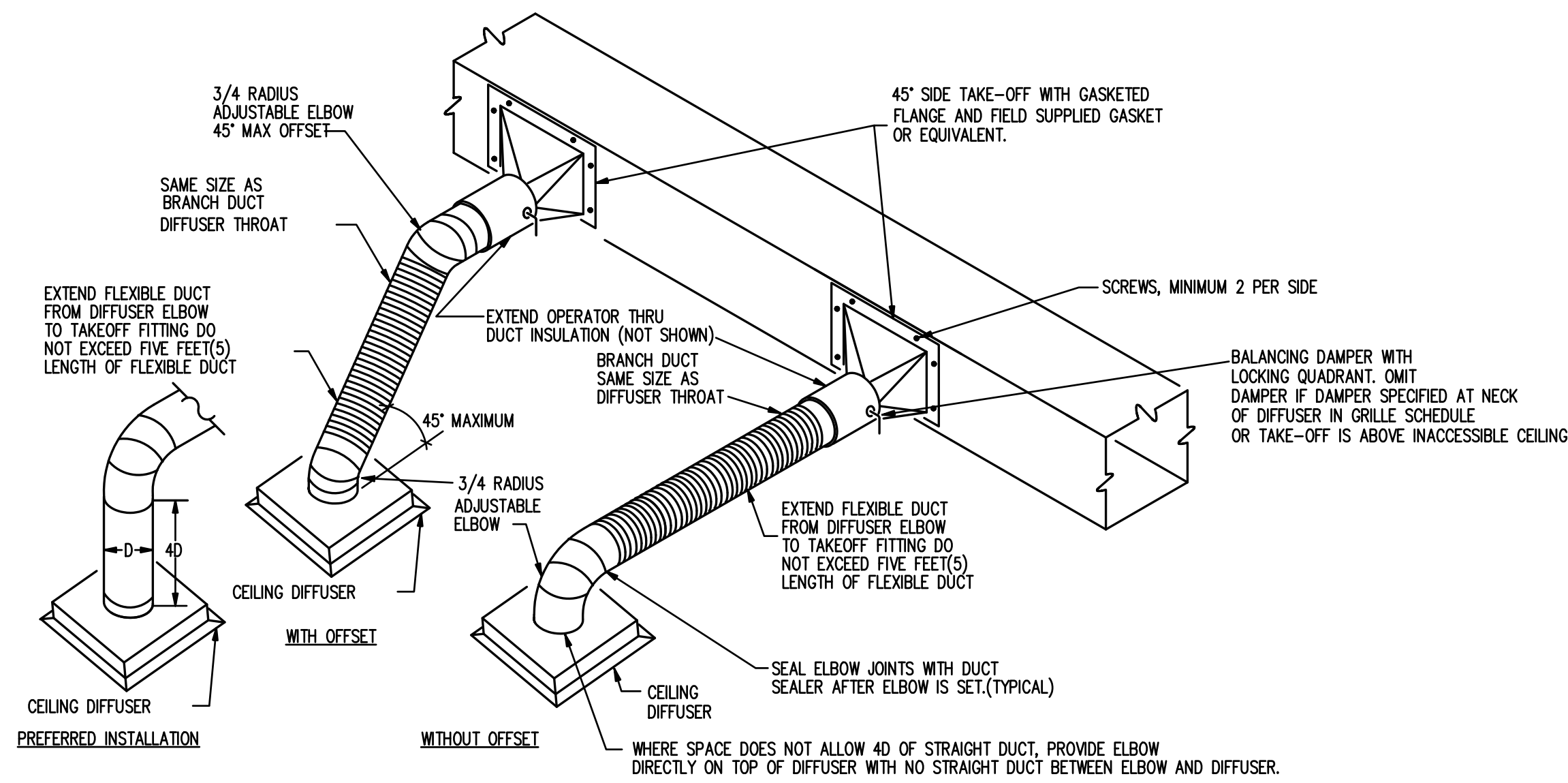
DEHUMIDIFICATION UNIT

MARK	CFM	POWER WATTS	CONDENSATION PPD@80F/60%RH	REFRIGERANT	POWER/PHASE	BASIS OF DESIGN	NOTES
DHU-1	155	305	33	R134A	115/1	Ultra-Aire MD33	1:2:3:4:5:6

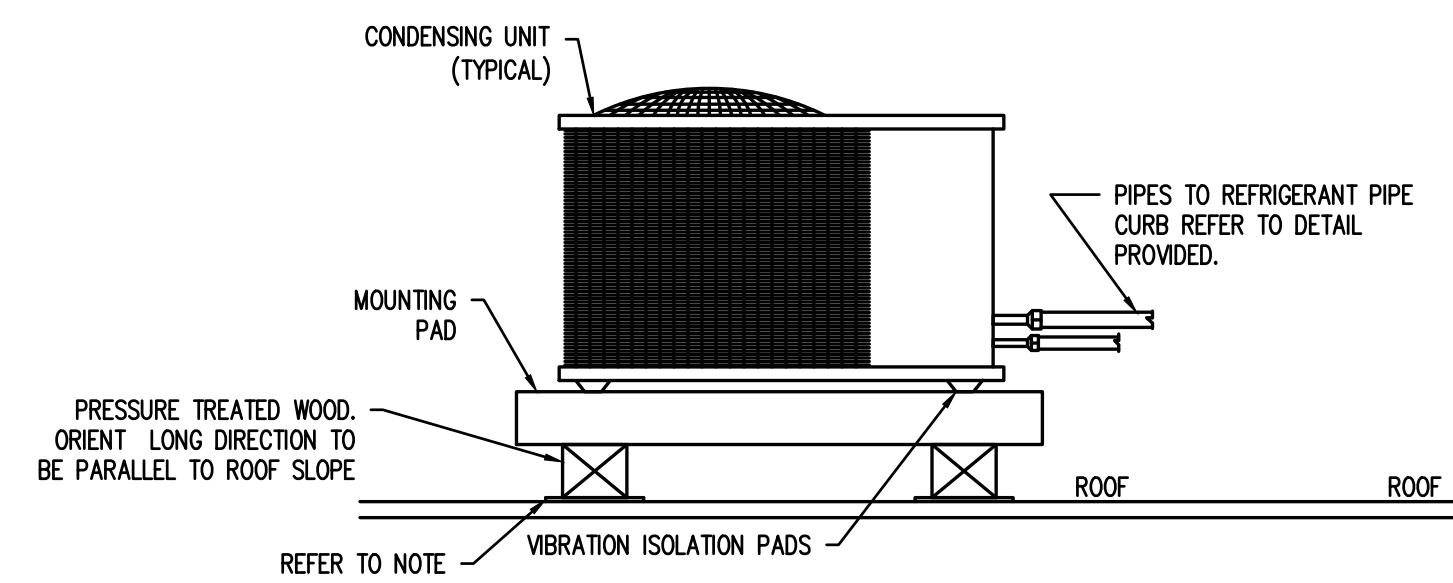
- IN-WALL DEHUMIDIFIER. DEHUMIDIFIER SHALL RUN CONTINUOUSLY 24/7 TO KEEP RELATIVE HUMIDITY 50% OR LOWER.
- VERIFY ELECTRIC POWER REQUIREMENTS WITH ELECTRICAL PLANS, WHICH TAKE PRECEDENCE OVER THIS INFORMATION.
- FUNCTIONING HUMIDITY RANGE 35-95%. FUNCTIONING TEMPERATURE RANGE 49-95°F.
- UNIT WEIGHT 60 LBS. MOUNT UNIT 1'-0" AFF.
- WALL MOUNT INSTALLATION. PROVIDE MANUFACTURER'S WALL MOUNTING BEZEL KIT.
- ROUTE CONDENSATE OUTSIDE. COORDINATE WITH PLUMBING.



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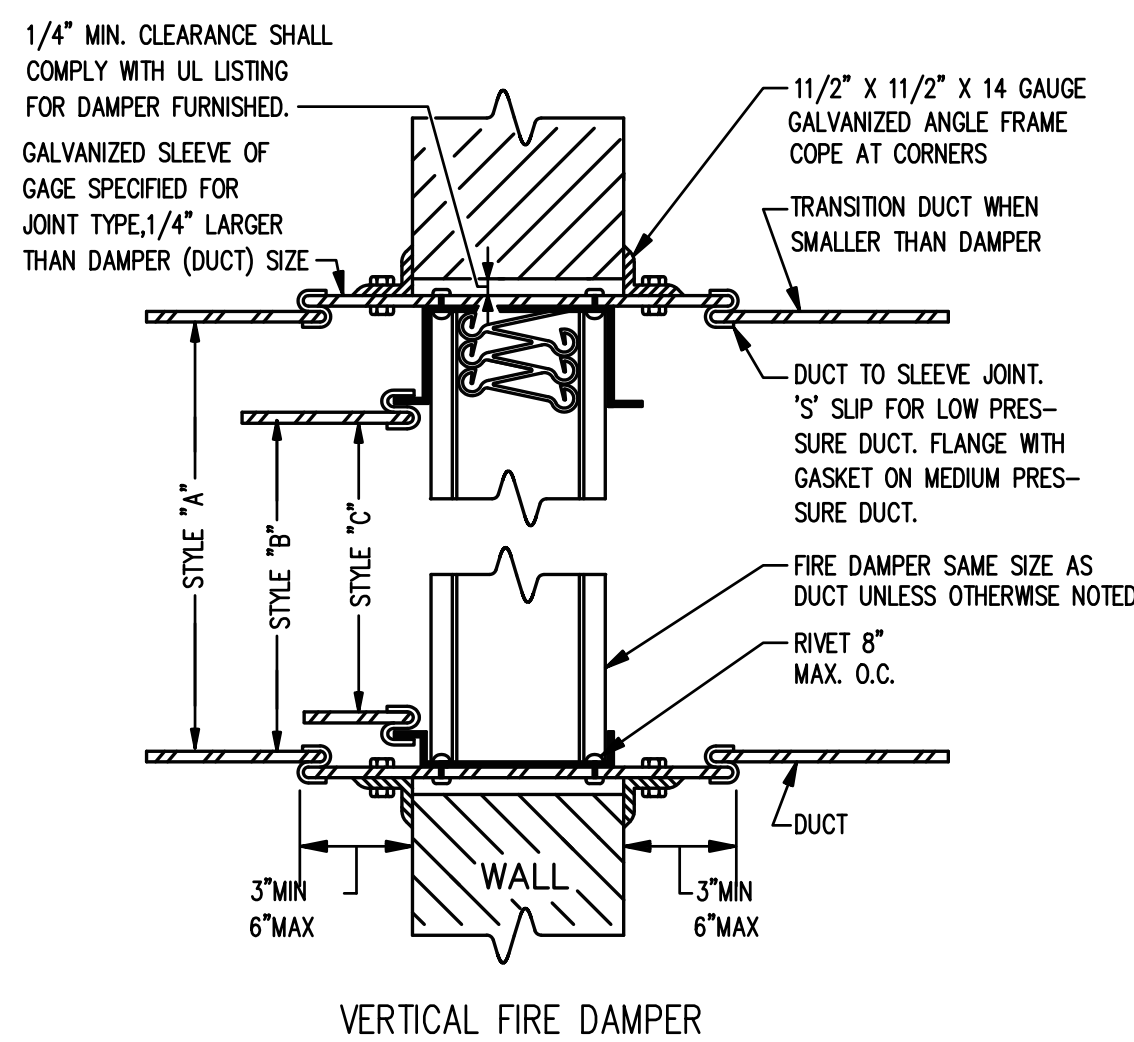


1 DIFFUSER RUN OUT DETAIL
SCALE: N.T.S.



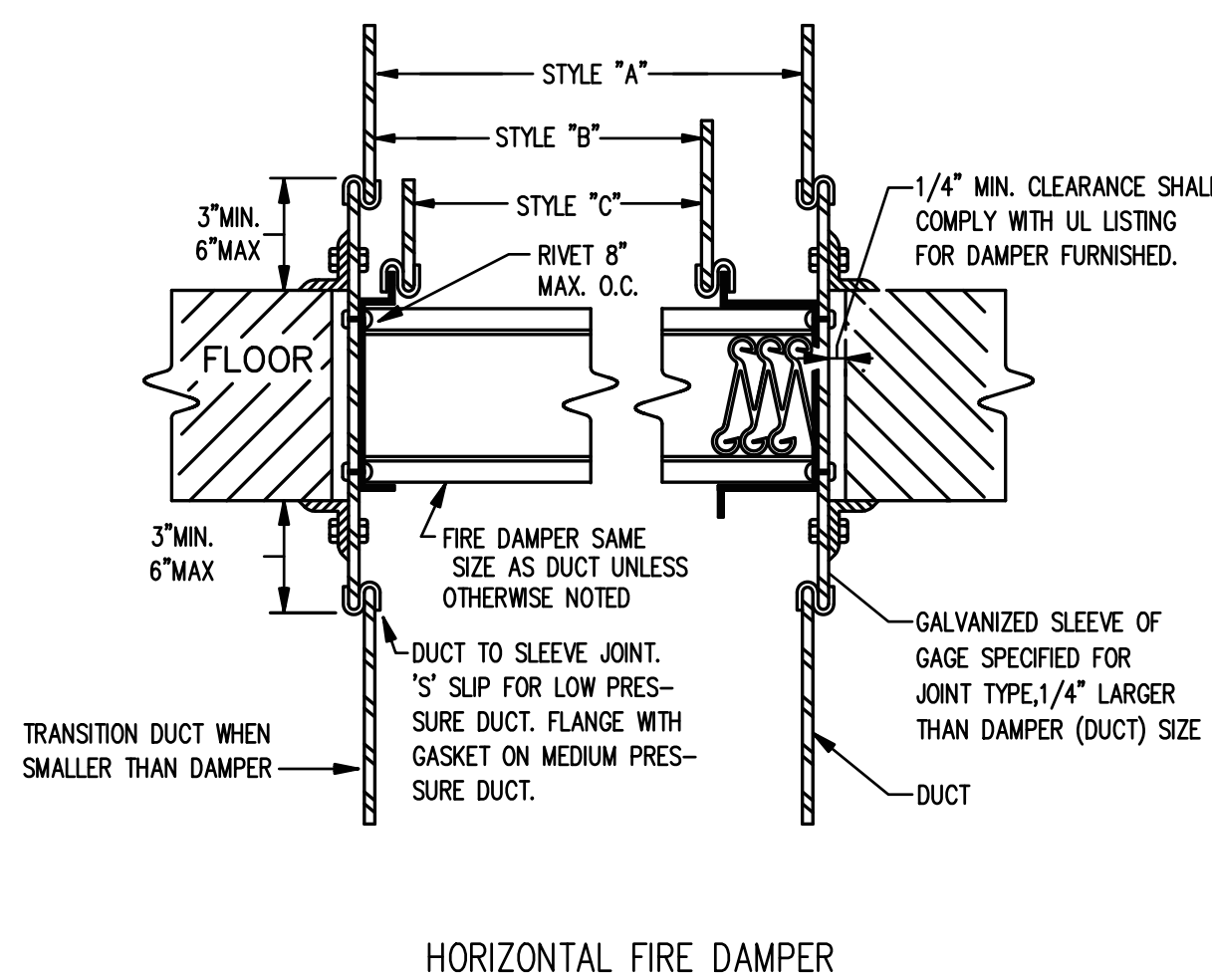
- NOTE: 1) THIS DETAIL IS FOR HEAT PUMP/CONDENSING UNIT 5 TONS AND UNDER
2) MOUNTING PAD SHALL BE TYPICAL DIVERSITECH ULTRALITE EQUIPMENT PAD OR EQUIVALENT.
3) PROVIDE ADDITIONAL ROOFING TO PROTECT MEMBRANE TO MAINTAIN ROOFING WARRANTY.
4) INSTALL CONDENSING UNITS ON VIBRATION ISOLATION PAD MOUNTED ON TOP OF 3" PAD. PADS MOUNTED ON TOP OF (2) 4x4 WOOD POSTS. MAINTAIN MINIMUM CLEARANCES BETWEEN UNITS IN ACCORDANCE WITH MANUFACTURER'S GUIDELINES. EXTRA TPO ROOFING TO BE BELOW 4x4 AS PER NOTE 3.
5) SECURE SMALL SPLIT SYSTEM UNITS TO MOUNTING PAD

4 TYPICAL CONDENSING UNIT INST
SCALE: N.T.S.

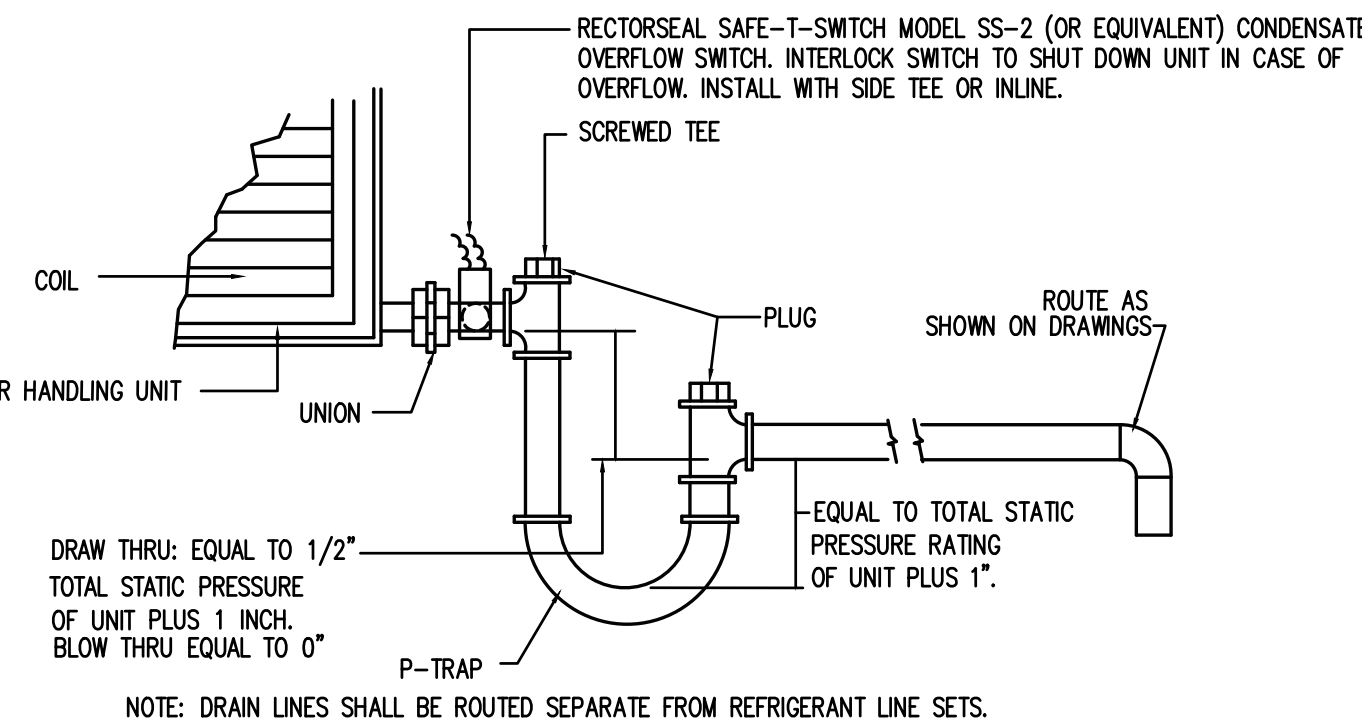


ALL FIRE DAMPERS ON THE PROJECT SHALL BE STYLE 'A' TYPE FIRE DAMPERS UNLESS OTHERWISE NOTED. DAMPERS LOCATED IN MEDIUM OR HIGH PRESSURE DUCTWORK SHALL BE STYLE 'C' FIRE DAMPERS. WHERE DAMPERS ARE INSTALLED IN DRYWALL PARTITION, STUD FRAMING SHALL BE PROVIDED ON ALL FOUR SIDES ON DAMPER.

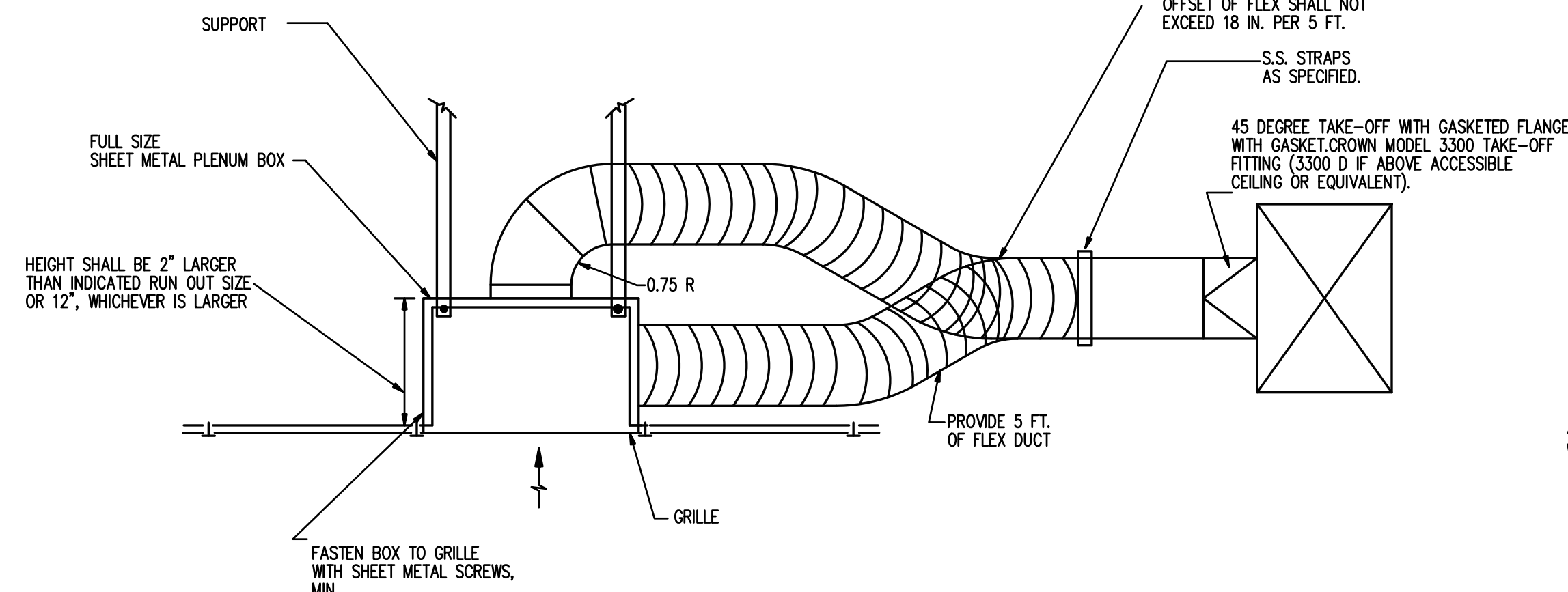
7 FIRE DAMPER DETAIL
SCALE: N.T.S.



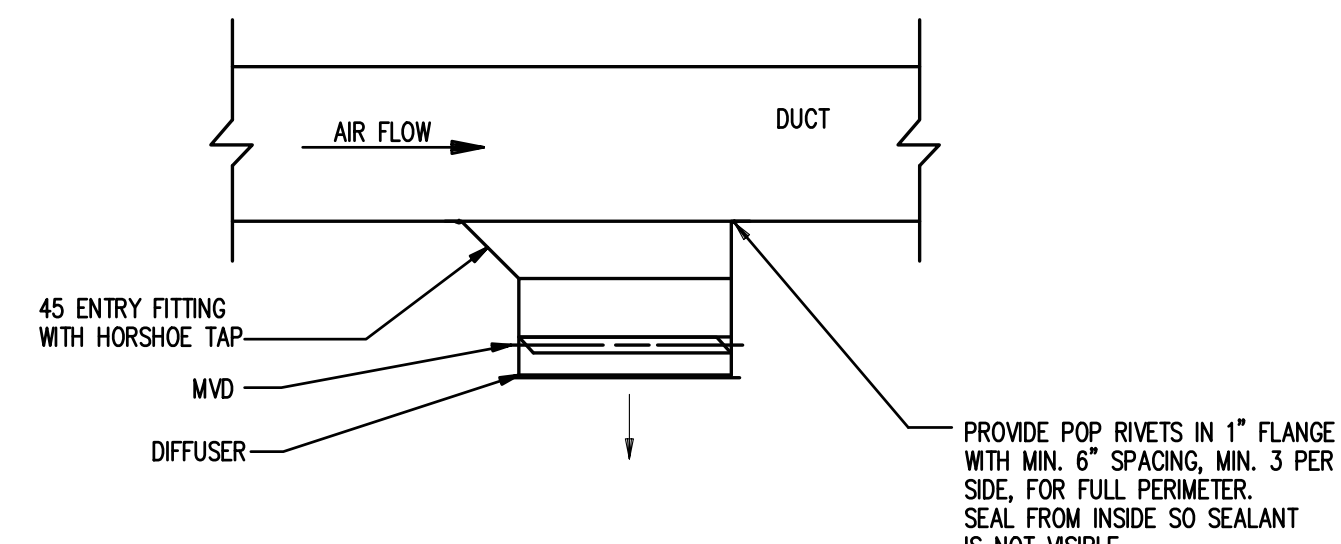
HORIZONTAL FIRE DAMPER



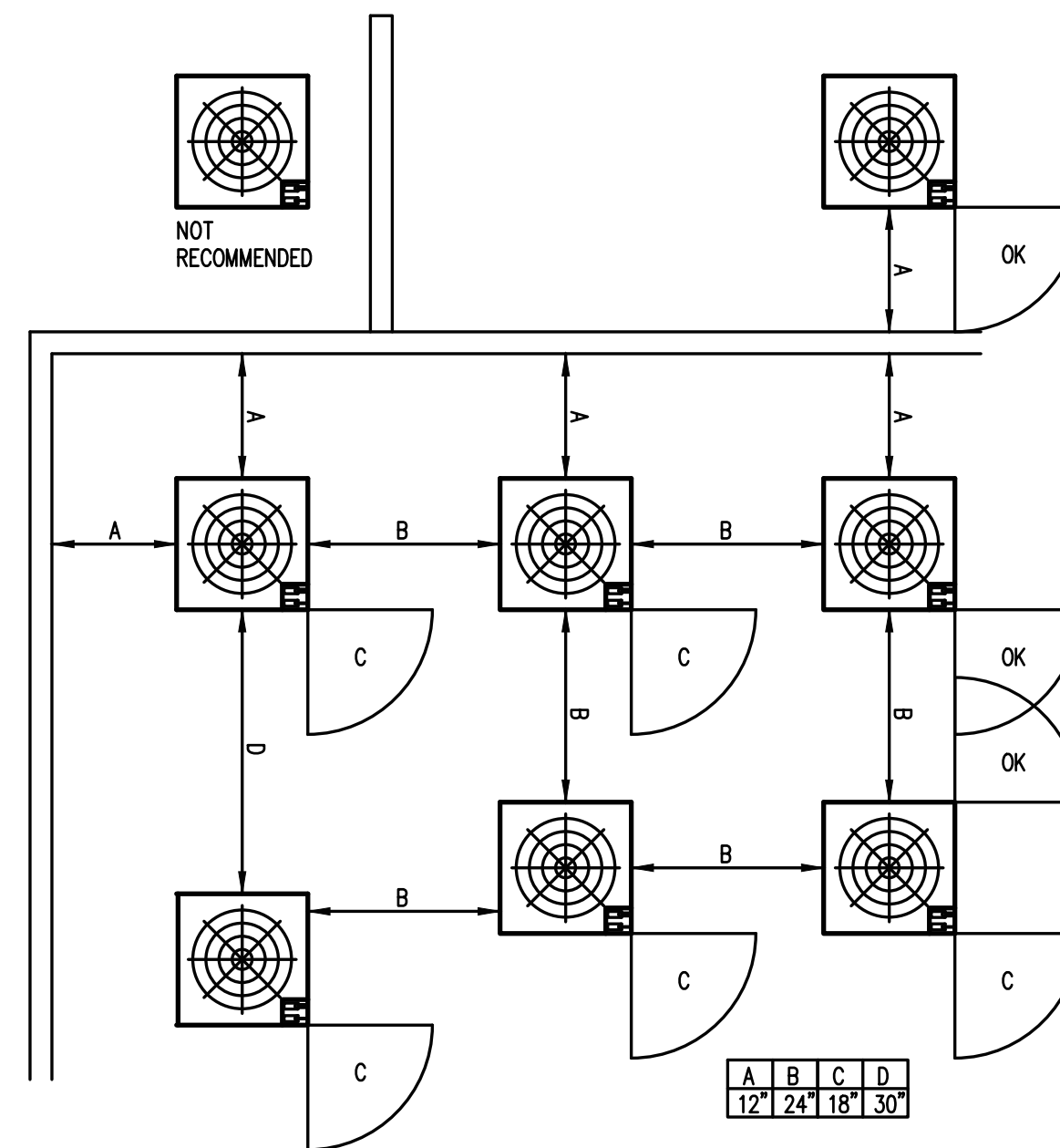
5 CONDENSATE DRAIN DETAIL
SCALE: N.T.S.



2 TYPICAL GRILLE WITH LINED PLENUM DETAIL
SCALE: N.T.S.

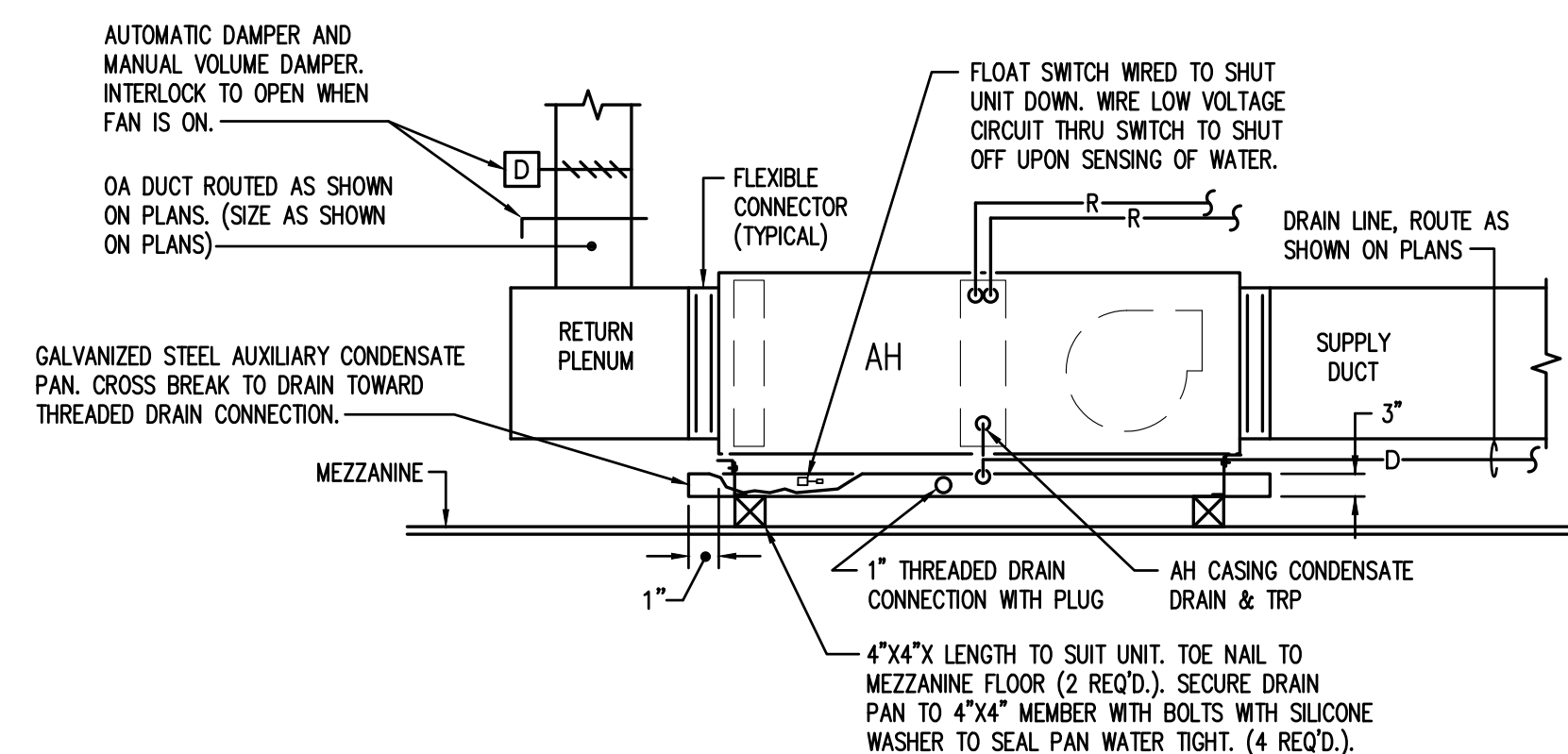


3 DUCT MOUNTED DIFFUSER DETAIL
SCALE: N.T.S.

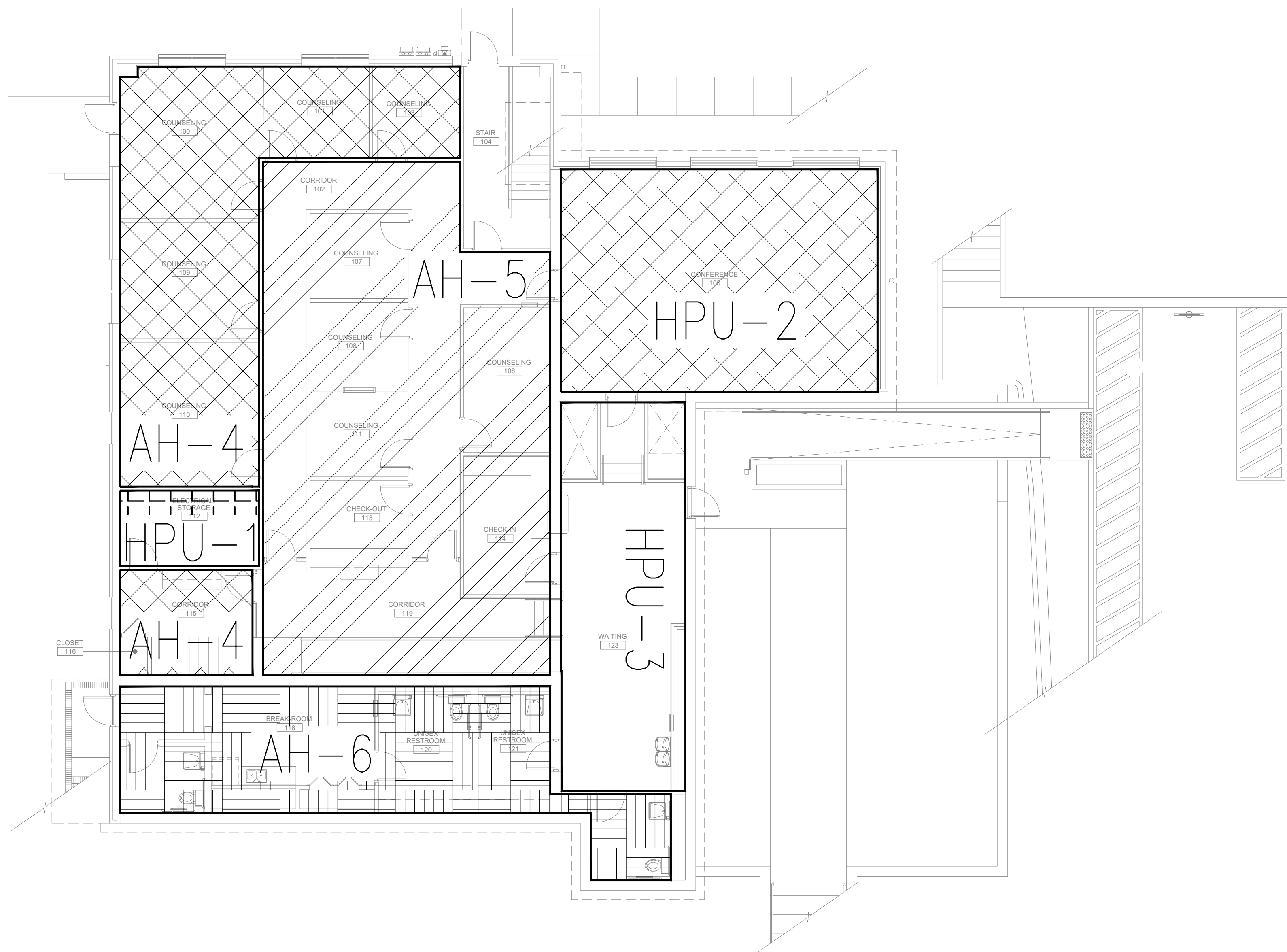


NOTE: SUBCONTRACTOR SHALL VERIFY CONDENSER CABINET SIZE AND MANUFACTURER CLEARANCES AND SUBMIT PAD SHOP DRAWINGS INDICATING SUCH FOR ENGINEER'S APPROVAL

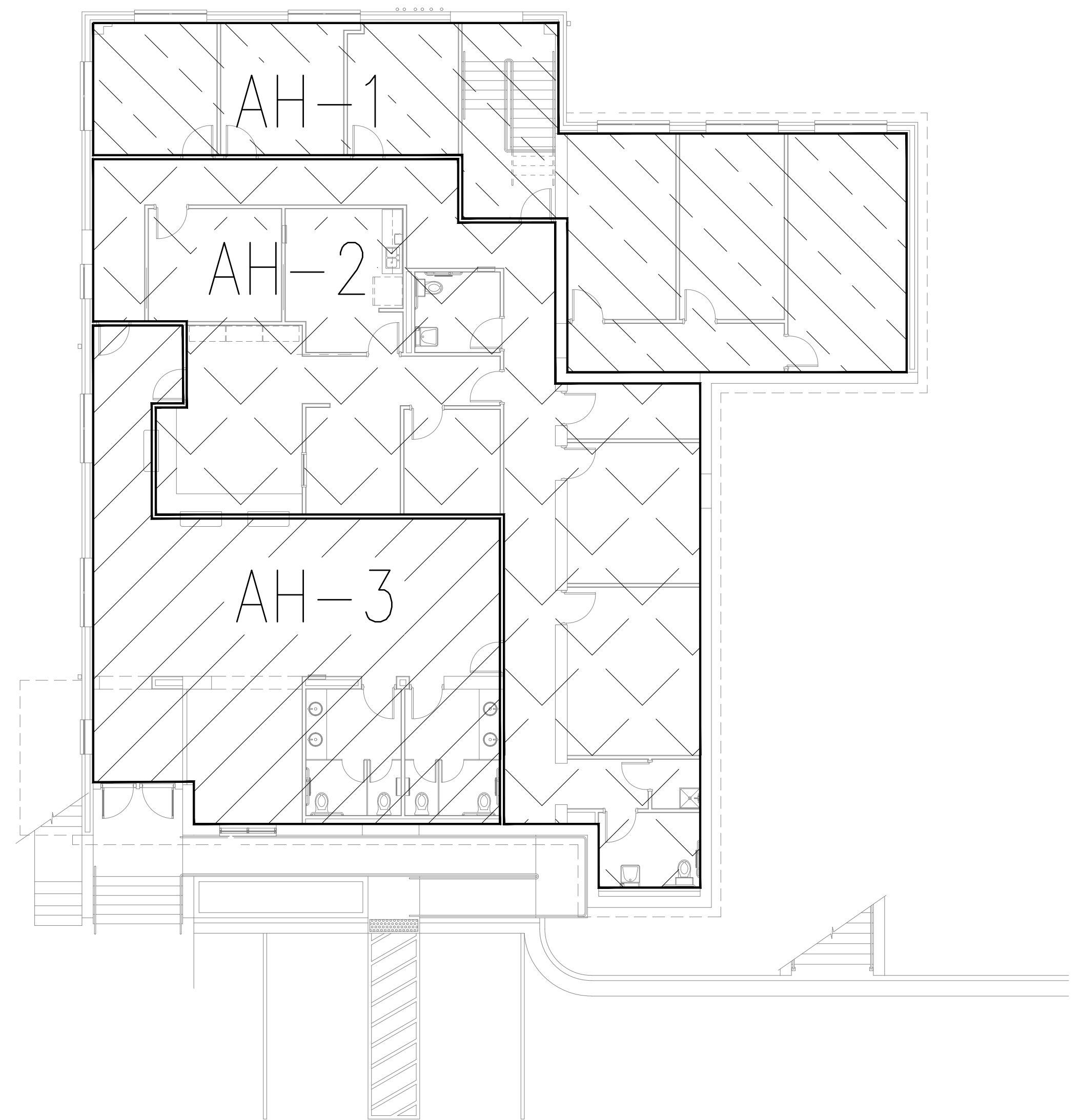
6 CONDENSER SPACING DETAIL
SCALE: N.T.S.



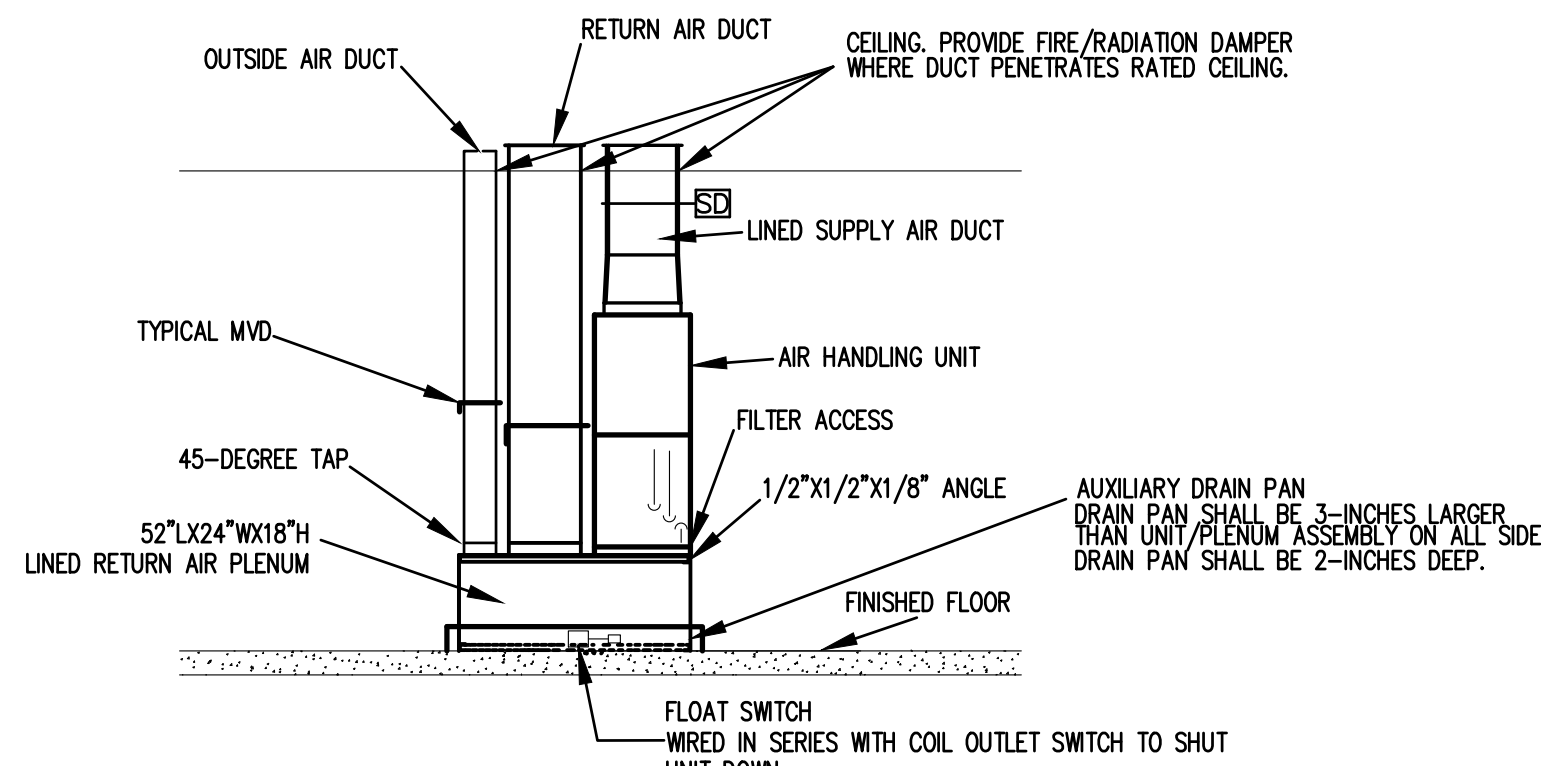
8 AHU ON MEZZANINE WITH AUXILIARY CONDENSATE PAN
SCALE: N.T.S.



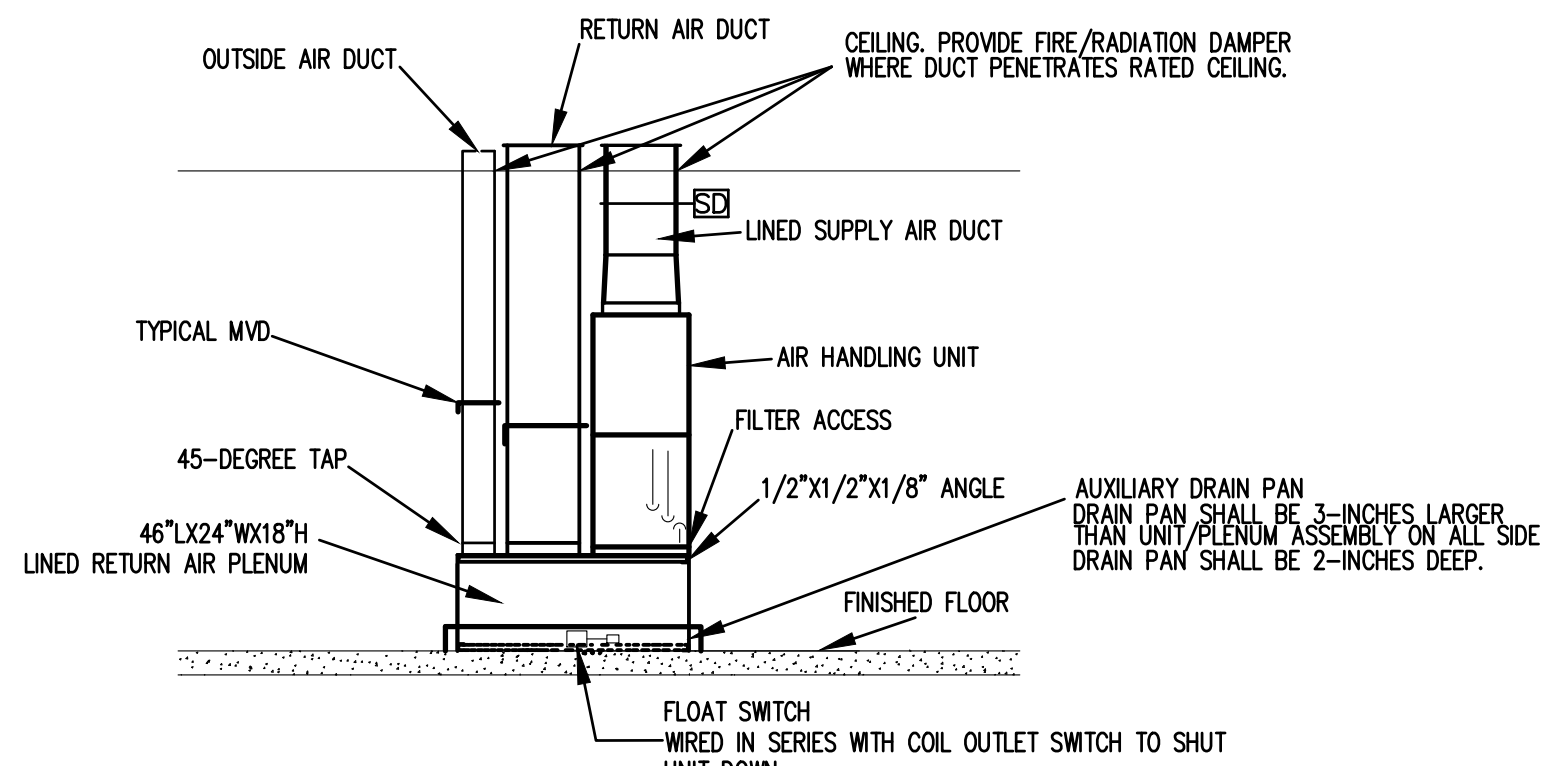
1 FIRST FLOOR MECHANICAL ZONING PLAN
SCALE: N.T.S.



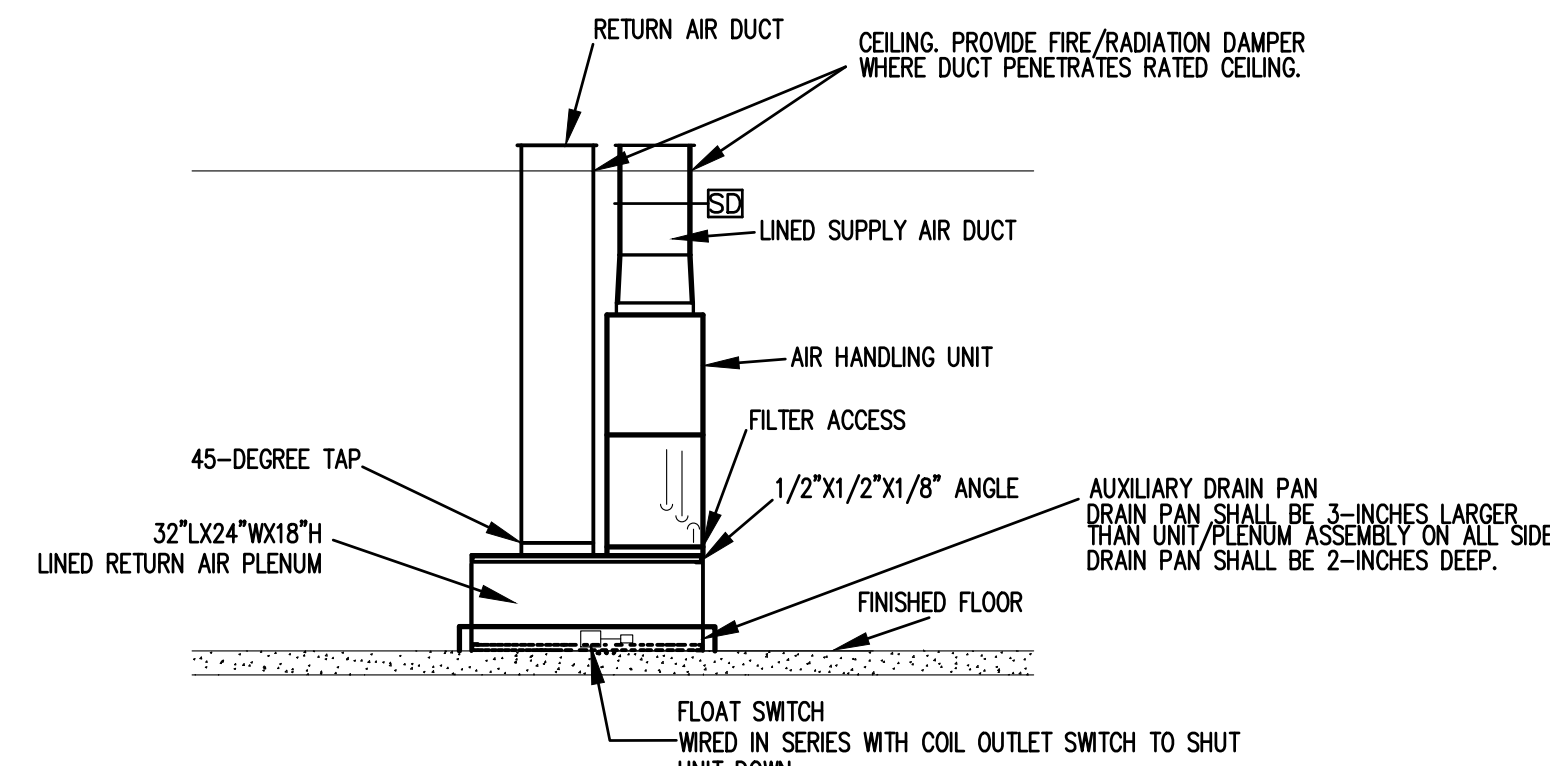
2 SECOND FLOOR MECHANICAL ZONING PLAN
SCALE: N.T.S.



3 AH-4- FRONT VIEW DETAIL
SCALE: N.T.S.



4 AH-5- FRONT VIEW DETAIL
SCALE: N.T.S.

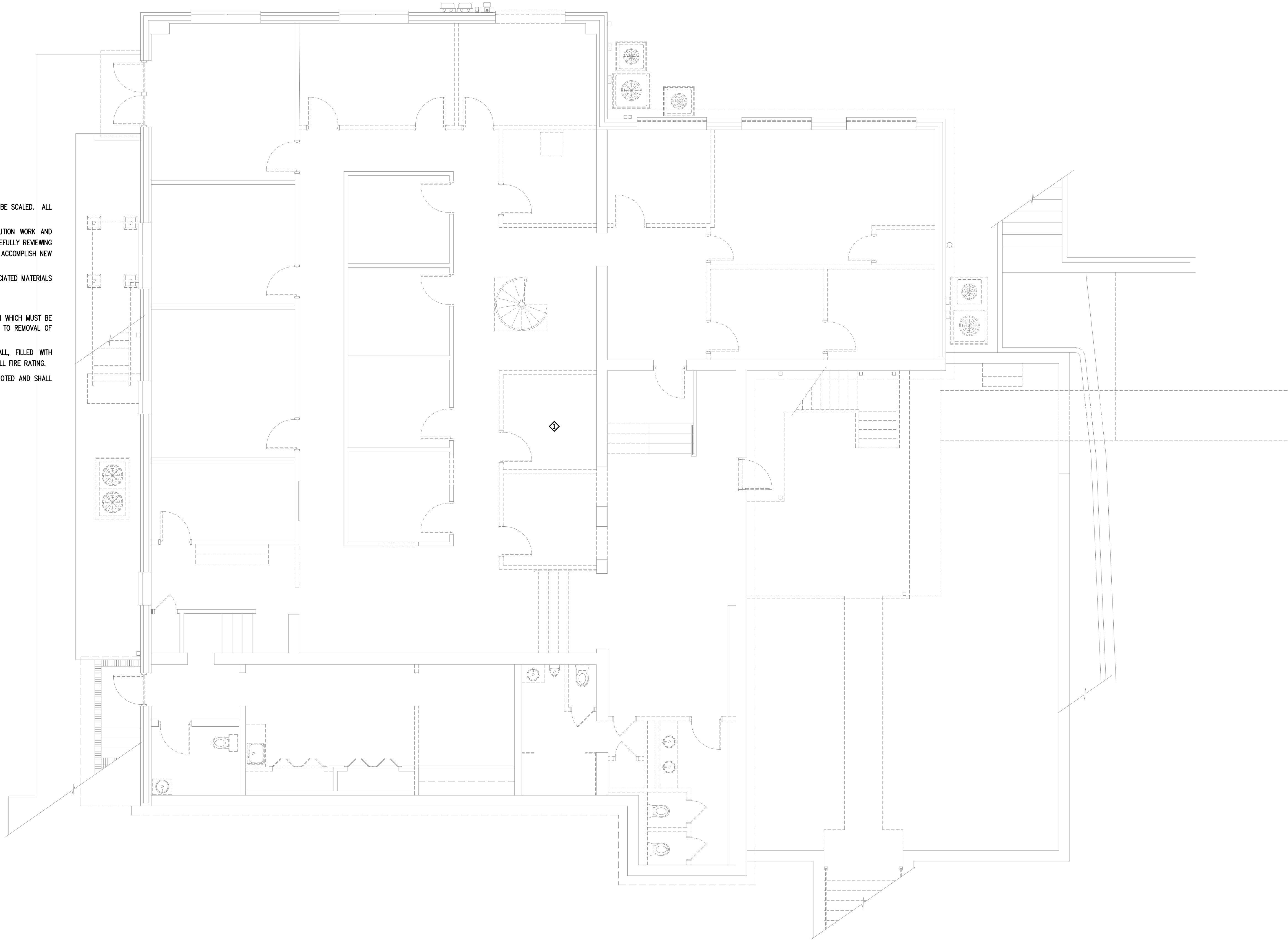


5 AH-6- BACK VIEW DETAIL
SCALE: N.T.S.

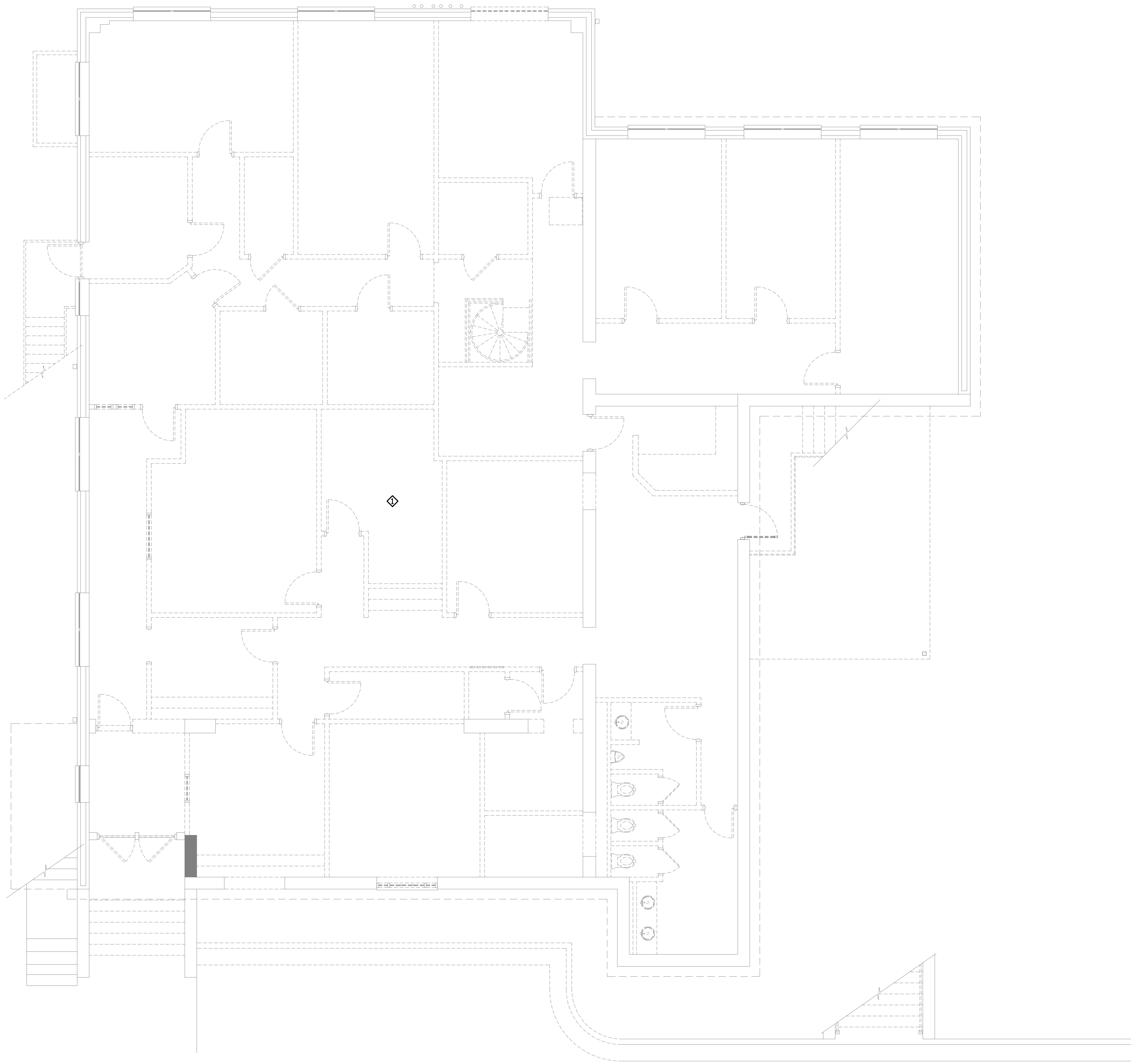
- GENERAL DEMOLITION NOTES
- A) DRAWINGS ARE DIAGRAMMATIC AND SHOW THE GENERAL PROXIMITY OF EQUIPMENT, PIPES, DUCTWORK ETC., ARE NOT TO BE SCALED. ALL DIMENSIONS SHALL BE VERIFIED BY THE CONTRACTOR AT BUILDING SITE.
- B) THE DEMOLITION PLANS HAVE BEEN PREPARED TO ASSIST THE CONTRACTOR IN DETERMINING THE SCOPE OF DEMOLITION WORK AND SHOULD NOT BE CONSTRUED TO BE ALL OF DEMOLITION REQUIRED. THE CONTRACTOR SHALL VISIT JOB SITE (AFTER CAREFULLY REVIEWING THE CONTRACT DOCUMENTS) AND DETERMINE EXACT AREAS AND QUANTITIES OF EXISTING MATERIALS TO BE REMOVED TO ACCOMPLISH NEW CONSTRUCTION.
- C) WHERE THE DOCUMENTS INDICATE EQUIPMENT TO BE REMOVED OR DEMOLISHED. CONTRACTOR SHALL REMOVE ALL ASSOCIATED MATERIALS INCLUDING SUPPORT, HANGERS, AND ASSOCIATED ACCESSORIES.
- D) CONTRACTOR SHALL DISPOSE OF ANY MATERIAL TO BE DISCARDED IN ACCORDANCE WITH ALL LAWS AND REGULATIONS.
- E) IF CONTRACTOR'S OBSERVATIONS REVEAL THE PRESENCE OF ASBESTOS IN HVAC DUCTWORK, EQUIPMENT, AND INSULATION WHICH MUST BE DISTURBED DURING THE COURSE OF THIS WORK, CONTRACTOR MUST FOLLOW ALL LAWS AND REGULATIONS APPLICABLE TO REMOVAL OF ASBESTOS MATERIAL TO REMOVE IT.
- F) UNUSED SLEEVES LEFT OPEN BY REMOVAL OF PIPING SHALL BE CUT FLUSH WITH THE FINISHED SLAB OR WALL, FILLED WITH NON-SHRINKING GROUT AND/OR FIRE RATED FOAM FLUSH WITH BOTH SIDES OF SLAB OR WALL TO MAINTAIN SLAB OR WALL FIRE RATING.
- G) ALL EXISTING EQUIPMENT REMOVED OR DEMOLISHED SHALL BE A PROPERTY OF THE CONTRACTOR, UNLESS OTHERWISE NOTED AND SHALL BE REMOVED FROM THE FACILITY AS REQUIRED BY CODES AND REGULATIONS.

KEY NOTES (THIS SHEET ONLY):

- ◇ REMOVE ALL HVAC EQUIPMENT WITH ALL ITS DUCTWORK AND ACCESSORIES ON FIRST FLOOR.



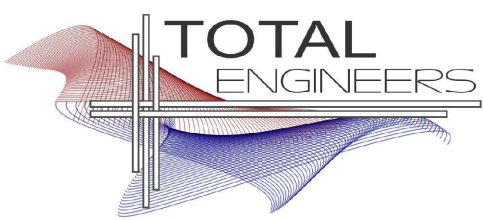
1 LEVEL 1 DEMOLITION MECHANICAL PLAN
SCALE: 3/16"=1'-0"



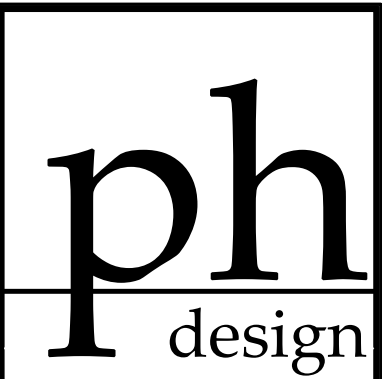
KEY NOTES(THIS SHEET ONLY):

◇ REMOVE ALL HVAC EQUIPMENT WITH ALL ITS DUCTWORK AND ACCESSORIES ON SECOND FLOOR.

1 LEVEL 2 DEMOLITION MECHANICAL PLAN
SCALE: 3/16"=1'-0"



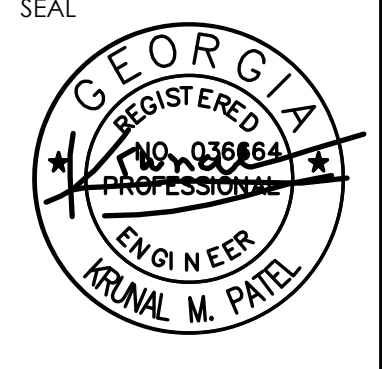
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SEAL



RENOVATIONS AND MODIFICATIONS FOR
CROSSROADS CHRISTIAN COUNSELING
CENTER, INC.
717 NORTH AVENUE
MACON, GEORGIA 31211

REVISION	DATE	DESCRIPTION

SHEET TITLE
LEVEL 2 MECHANICAL
DEMOLITION PLAN

JOB NUMBER
25-CC-01

DATE
09-17-2025

SHEET NUMBER
M-1.1

REVISION	DATE	DESCRIPTION

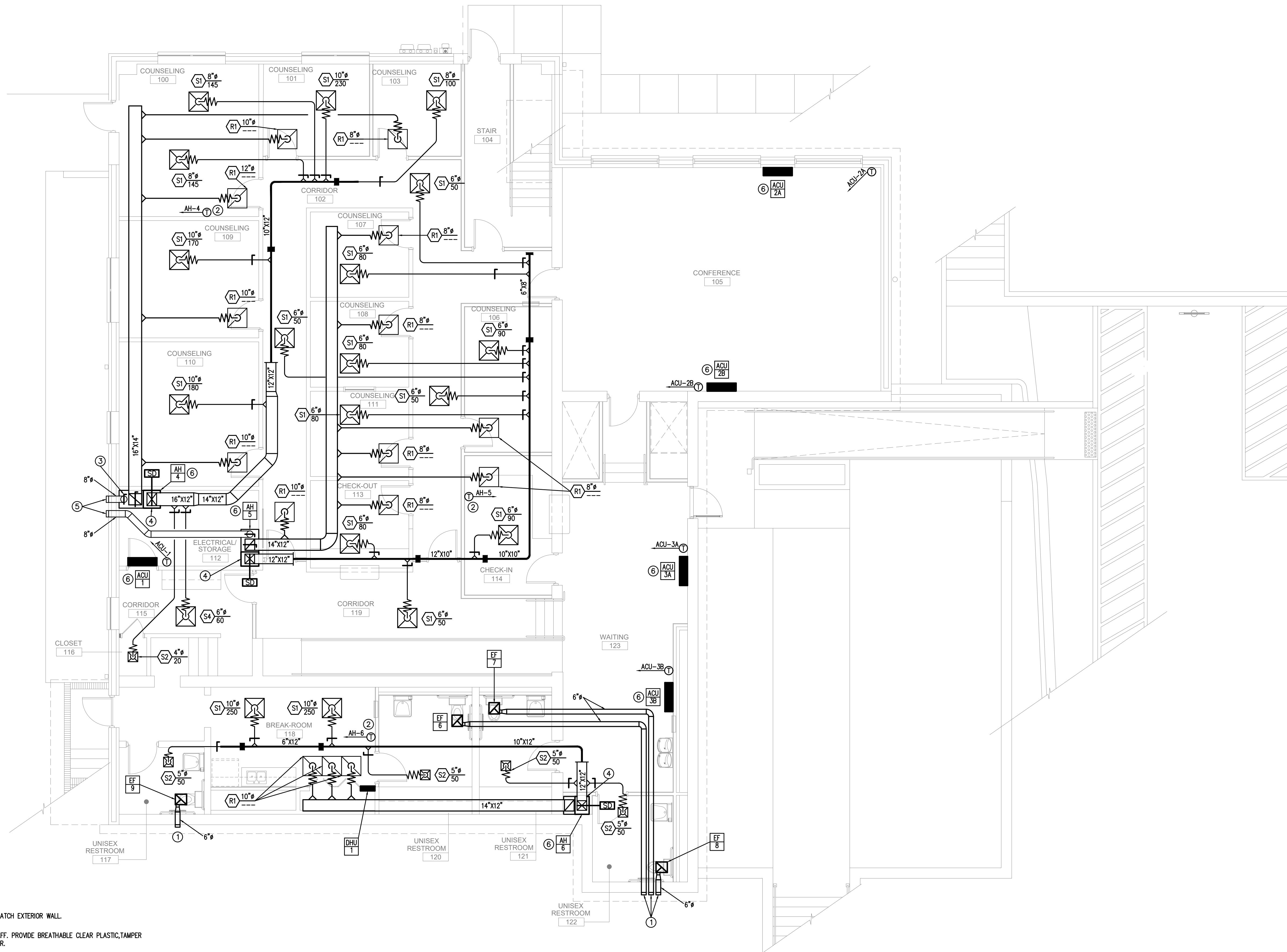
SHEET TITLE
LEVEL 1
MECHANICAL PLAN

JOB NUMBER
25-CC-01

DATE
09-17-2025

SHEET NUMBER

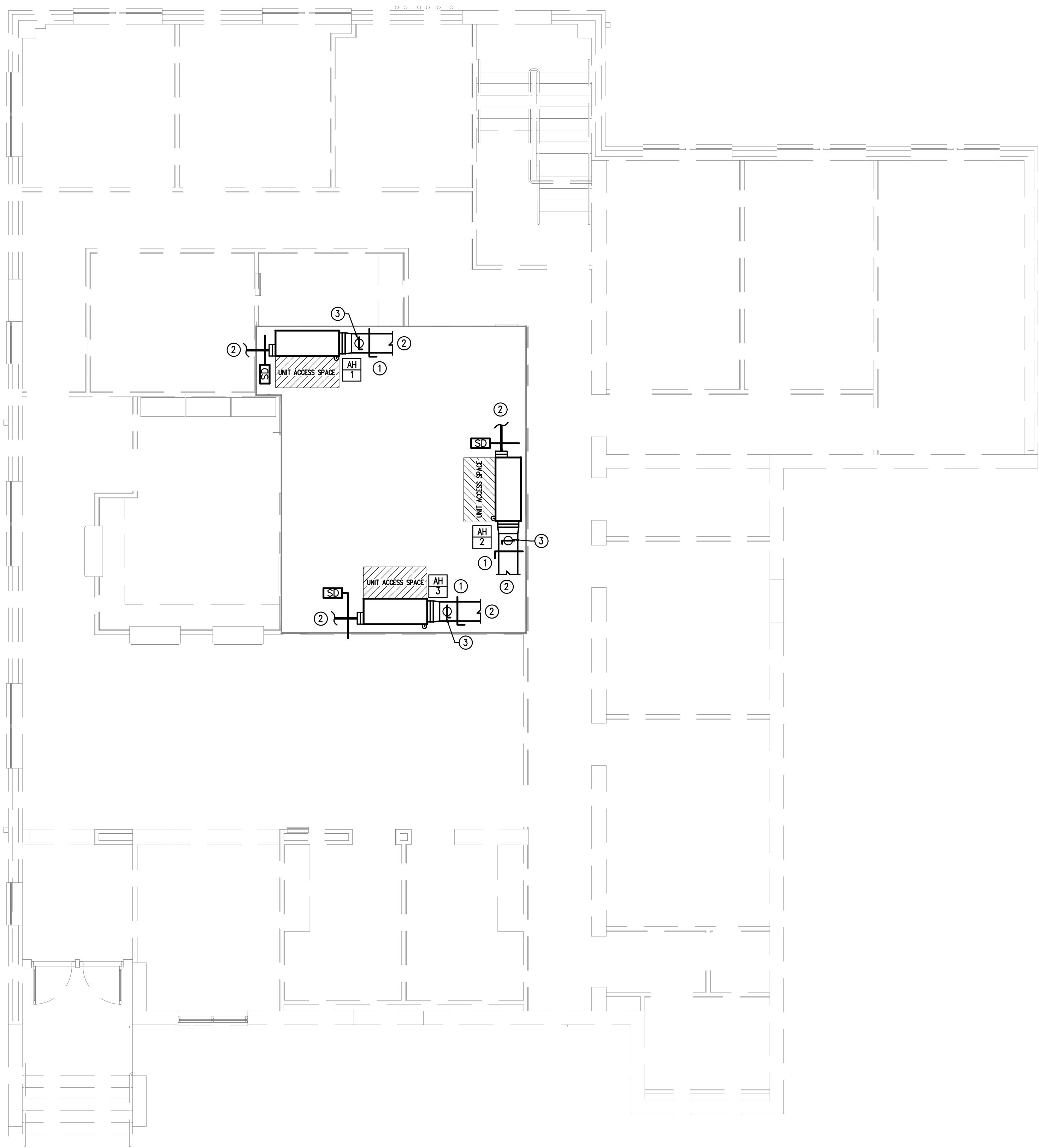
M-2.1



- KEY NOTES (THIS SHEET ONLY):
- 6" EXHAUST AIR WALL CAP. PAINT TO MATCH EXTERIOR WALL.
 - TOP OF THERMOSTAT SHALL BE AT 48" AFF. PROVIDE BREATHABLE CLEAR PLASTIC, TAMPER PROOF AND LOCKABLE THERMOSTAT COVER.
 - TYPICAL MANUAL VOLUME DAMPER.
 - FRONT OF AIR-HANDLING UNIT.
 - 8" OUTSIDE AIR WALL CAP. PAINT TO MATCH EXTERIOR WALL.
 - ROUTE REFRIGERANT PIPES TO RESPECTIVE UNIT LOCATED ON ROOF. ROUTE AND SIZE PER MANUFACTURER'S INSTRUCTIONS.

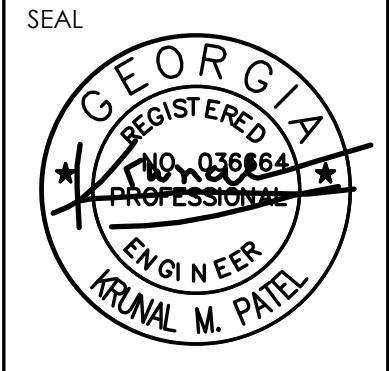
1 LEVEL 1 MECHANICAL PLAN
SCALE: 3/16" = 1'-0"

- KEY NOTES(THIS SHEET ONLY):
- ① RETURN AIR DAMPER.
 - ② SEE SHEET M2.2 FOR CONTINUATION.
 - ③ 10" DIAMETER OUTSIDE AIR DUCT TO VENTILATOR ON ROOF. VENTILATOR SHALL BE GREENHECK MODEL GR5I-10, SPUN ALUMINUM AIR RELIEF ROOF VENTILATOR. TYPICAL OF 3.



1 **MEZZANINE MECHANICAL PLAN**
SCALE: 3/16"=1'-0"

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**RENOVATIONS AND MODIFICATIONS FOR
CROSSROADS CHRISTIAN COUNSELING
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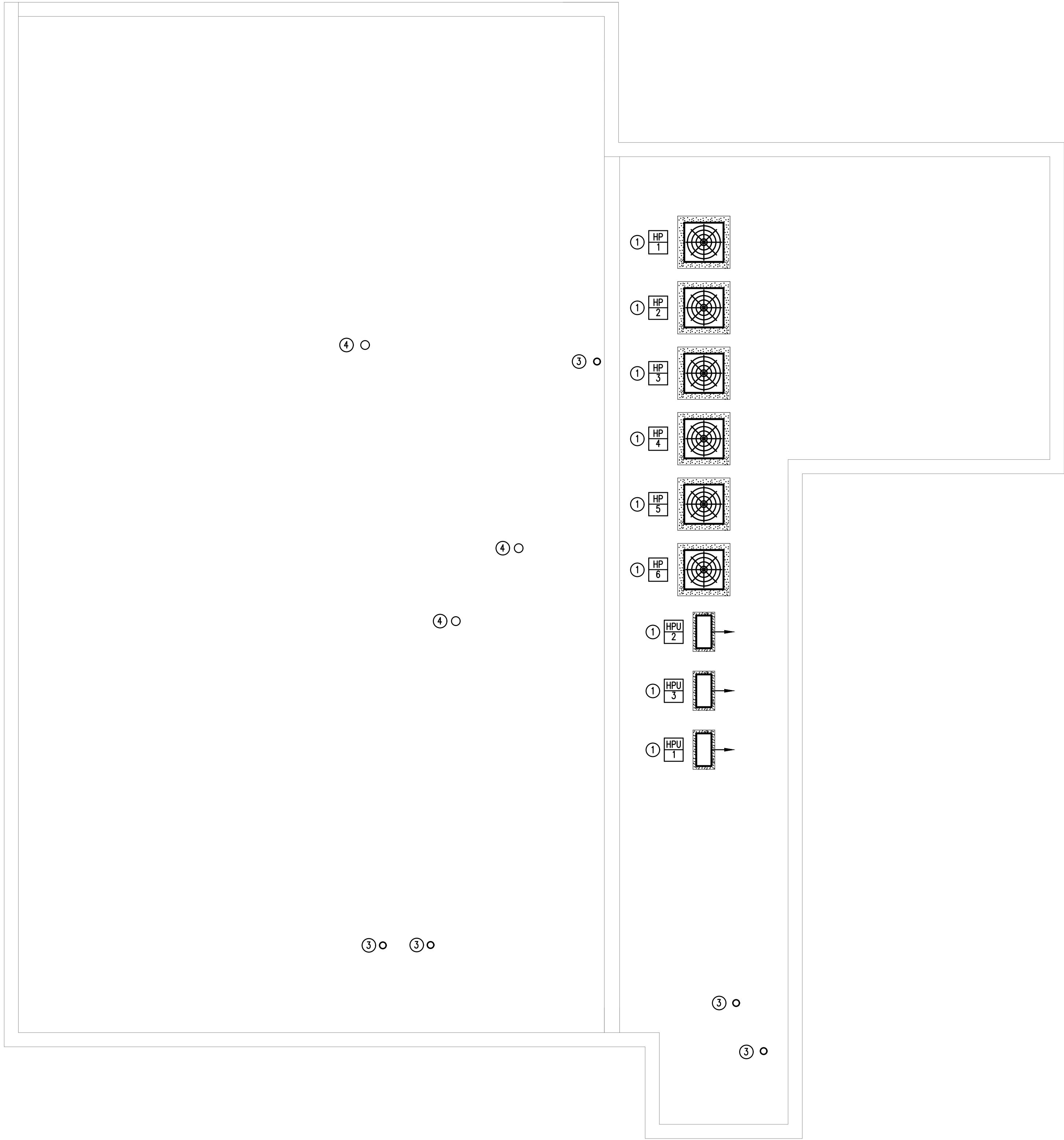
REVISION	DATE	DESCRIPTION

SHEET TITLE
MEZZANINE
MECHANICAL PLAN

JOB NUMBER
25-CC-01

DATE
09-17-2025

SHEET NUMBER
M-2.3



- KEY NOTES(THIS SHEET ONLY):
- ① ROUTE REFRIGERANT PIPES TO RESPECTIVE AIR-HANDLING UNIT(S) INSIDE BUILDING. ROUTE AND SIZE PER MANUFACTURER'S INSTRUCTIONS.
 - ② NOT USED.
 - ③ 6" EXHAUST AIR ROOF CAP. PAINT TO MATCH ROOF.
 - ④ 8" OUTSIDE AIR ROOF CAP. PAINT TO MATCH ROOF.

1 **ROOF MECHANICAL PLAN**
SCALE: 3/16"=1'-0"

REVISION	DATE	DESCRIPTION

SHEET TITLE ROOF MECHANICAL PLAN
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JOB NUMBER 25-CC-01

DATE 09-17-2025

SHEET NUMBER M-2.4
