

A) FIRST FLOOR PLAN - DUCTWORK
3/16" = 1'-0"

GENERAL NOTES:

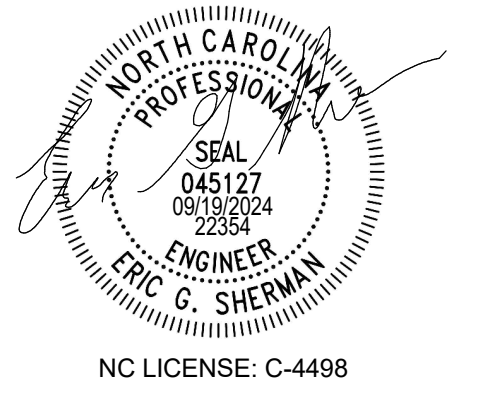
- COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.
- ON DEMOLITION PLANS, EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED. EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.
- UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.
- THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

SHEET NOTES:

- PROVIDE REFRIGERANT LINES TO OUTDOOR UNIT. SIZE PER MANUFACTURER'S RECOMMENDATIONS.
- PROVIDE WALL GRILLES IN WAITING ROOM AT 11'-0" AFF.
- PROVIDE MANUAL BALANCING DAMPER IN DROPS TO GRILLES.
- PROVIDE WALL MOUNTED GRILLES WITH THE BOTTOM OF THE GRILLE 8" ABOVE THE FLOOR.



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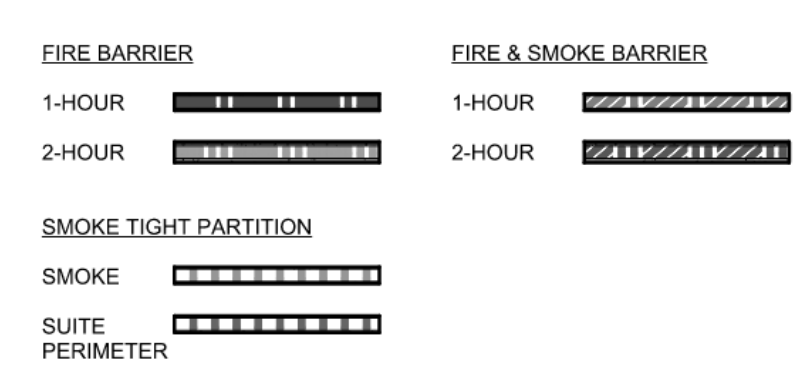
ISSUE FOR:
CONSTRUCTION DOCUMENTS

REVISIONS:

Revision Number	Revision Description	Revision Date
1	ADDENDUM 1	05/21/2024
2	MODIFICATION 2	09/19/2024

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RATED WALLS & PARTITIONS



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Novant ASC Leland

SHEET NAME
FIRST FLOOR PLAN - DUCTWORK

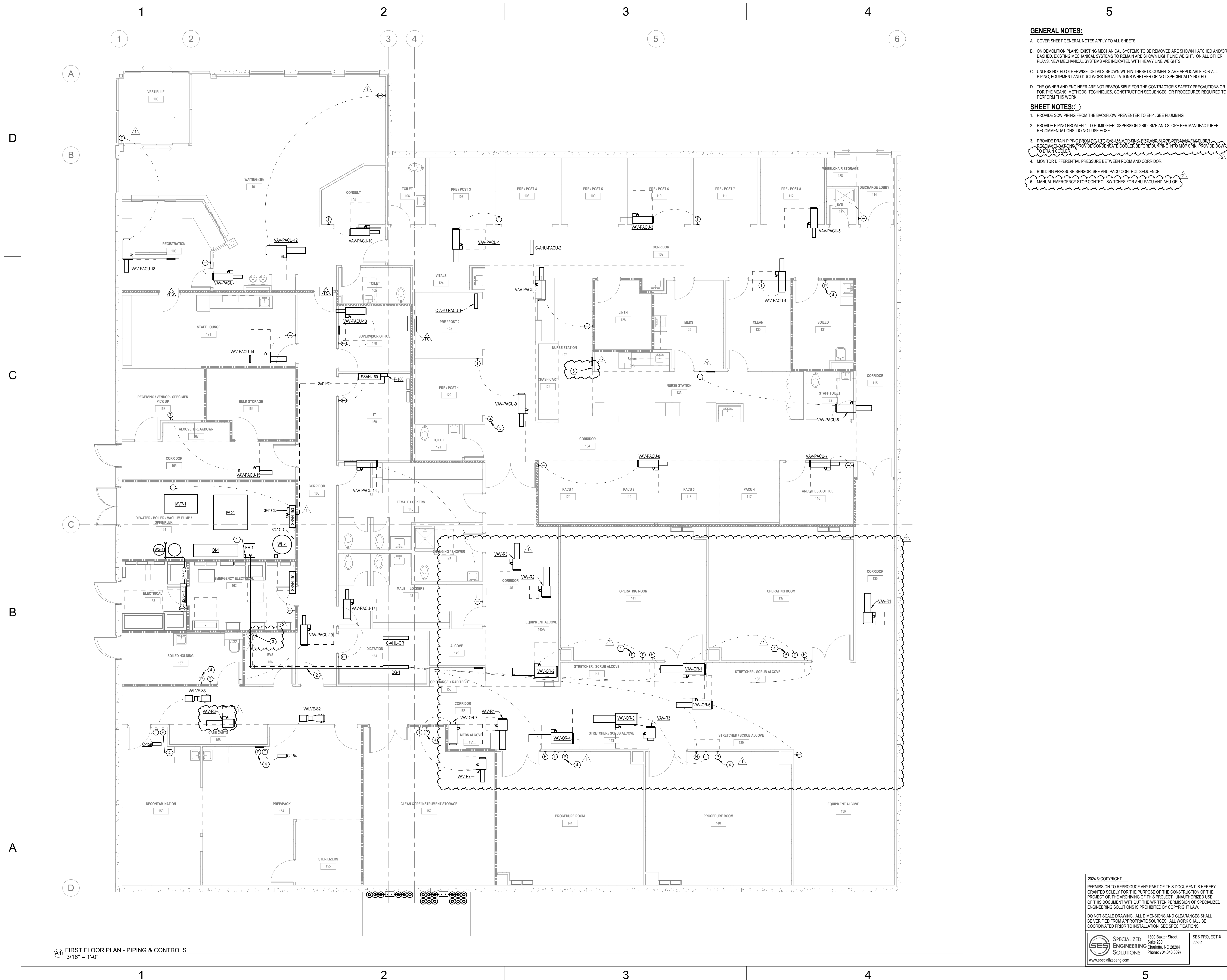
SHEET NUMBER
MH201

CONSTRUCTION DOCUMENTS

Novant ASC Leland

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- GENERAL NOTES:**
- A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.
 - B. ON DEMOLITION PLANS, EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED. EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.
 - C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.
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- SHEET NOTES:**
- 1. PROVIDE SCW PIPING FROM THE BACKFLOW PREVENTER TO EH-1. SEE PLUMBING.
 - 2. PROVIDE PIPING FROM EH-1 TO HUMIDIFIER DISPERSION GRID. SIZE AND SLOPE PER MANUFACTURER RECOMMENDATIONS. DO NOT USE HOSE.
 - 3. PROVIDE DRAIN PIPING FROM DC-1 TO FWS-100. SIZE AND SLOPE PER MANUFACTURER RECOMMENDATIONS. PROVIDE CONDENSATE COOLER BEFORE DRAINING INTO MFP SINK. PROVIDE DRAIN TO DRAIN COOLER.
 - 4. MONITOR DIFFERENTIAL PRESSURE BETWEEN ROOM AND CORRIDOR.
 - 5. BUILDING PRESSURE SENSOR. SEE AHU-PACU CONTROL SEQUENCE.
 - 6. MANUAL EMERGENCY STOP CONTROL SWITCHES FOR AHU-PACU AND AHU-OR.

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PROFESSIONAL ENGINEER
ERIC G. SHERMAN
NC LICENSE: C-4498

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SES PROJECT #
22354

Novant ASC Leland

SHEET NAME
FIRST FLOOR PLAN - PIPING & CONTROLS

SHEET NUMBER
MH203

A1 FIRST FLOOR PLAN - PIPING & CONTROLS
3/16" = 1'-0"

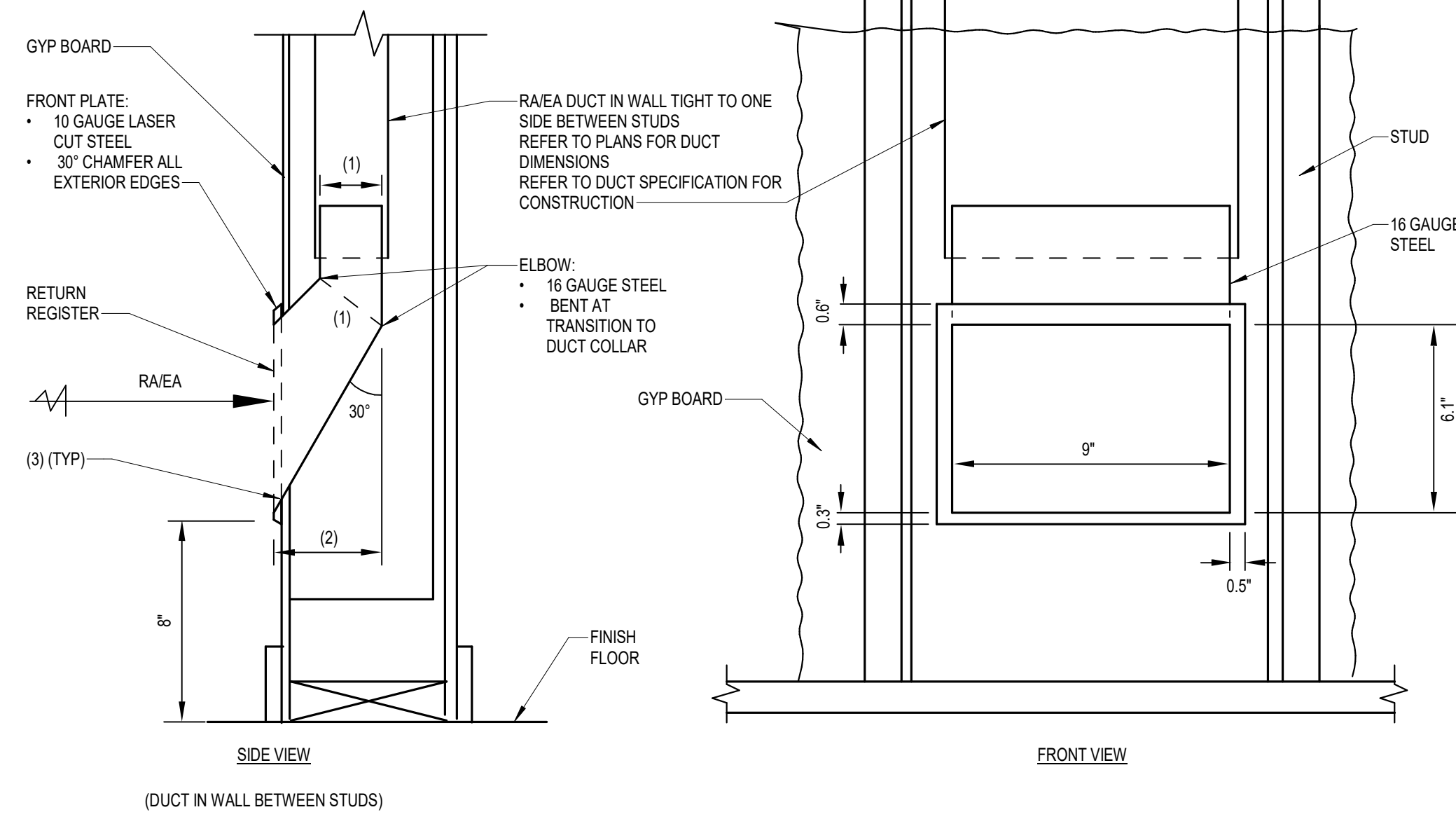
CONSTRUCTION DOCUMENTS

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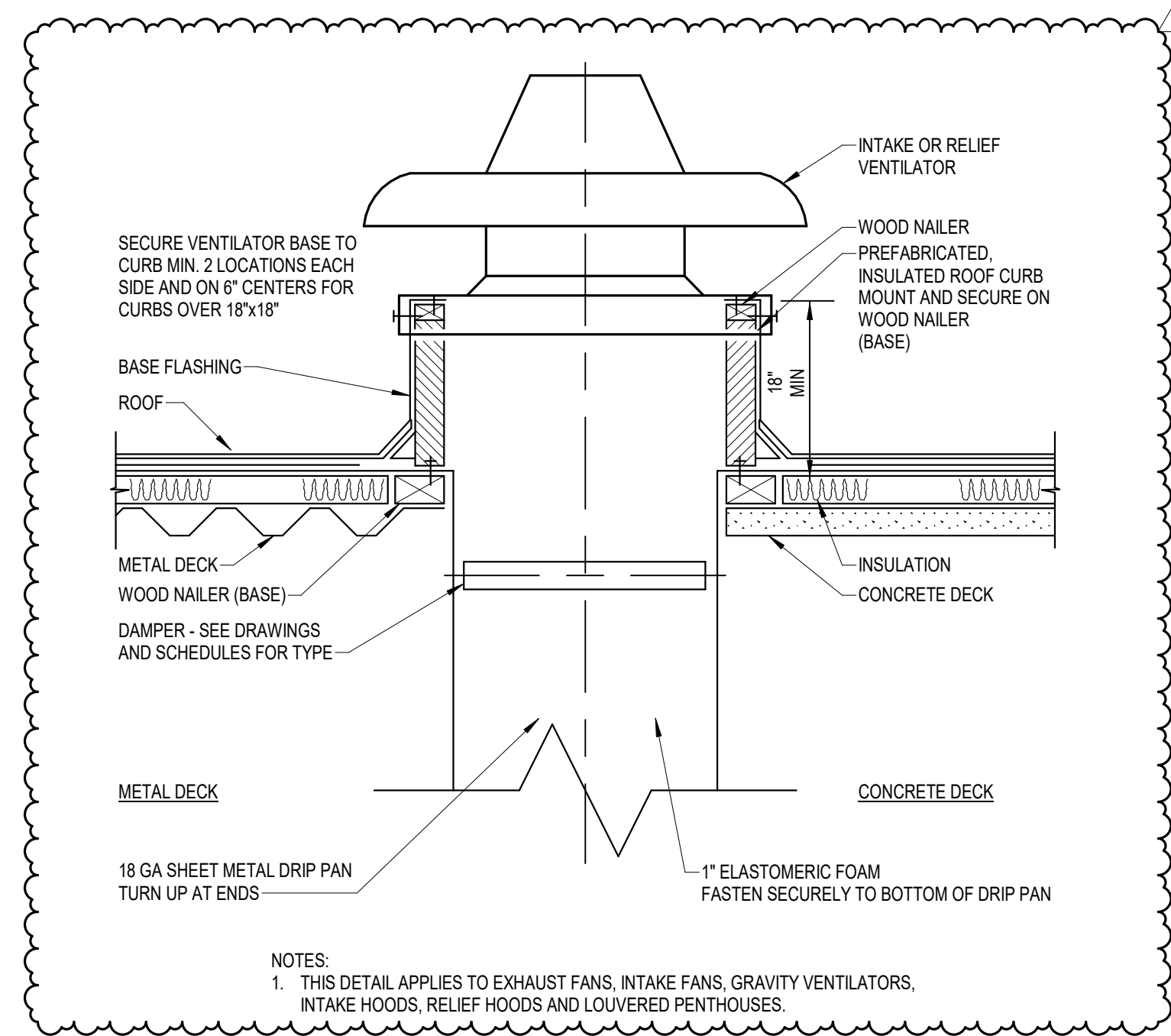
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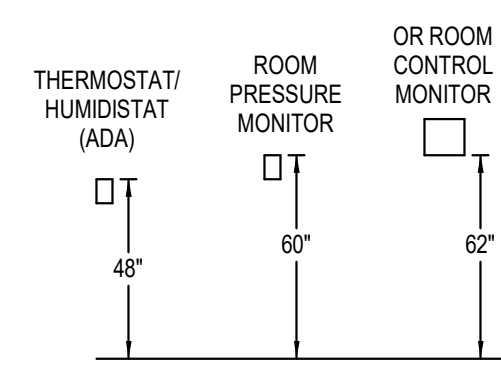
- NOTES:
- 2" FOR 2X4 NOMINAL STUD WALL, 4" FOR 2X6 NOMINAL STUD WALL.
 - 3.5" FOR 2X4 NOMINAL STUD WALL, 5.5" FOR 2X6 NOMINAL STUD WALL.
 - GRIND/SAND AND SMOOTH ALL WELDS AS REQUIRED FOR PRESENTABLE PRODUCT FINISH.
 - PROVIDE POWDER COATED FINISHED SAMPLE FOR OWNER REVIEW PRIOR TO FABRICATION OF ADDITIONAL QUANTITIES.



C1 OPERATING ROOM WALL GRILLE
3/16" = 1'-0"

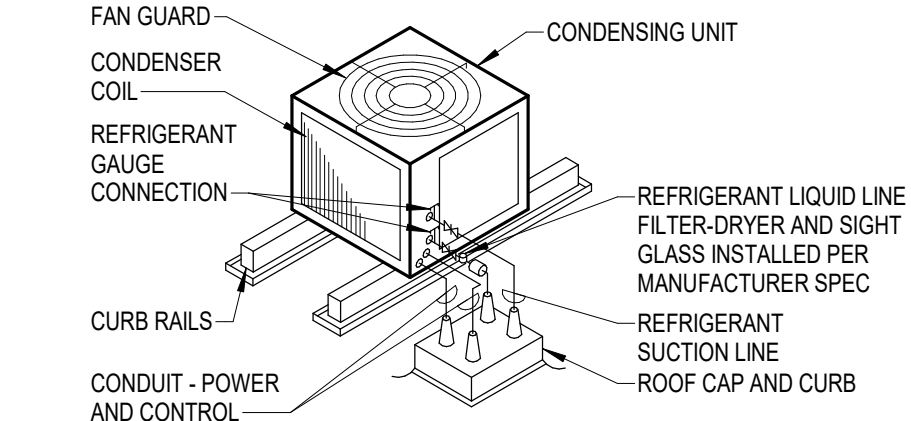


C2 ROOF VENTILATOR OR FAN MOUNTING
NO SCALE

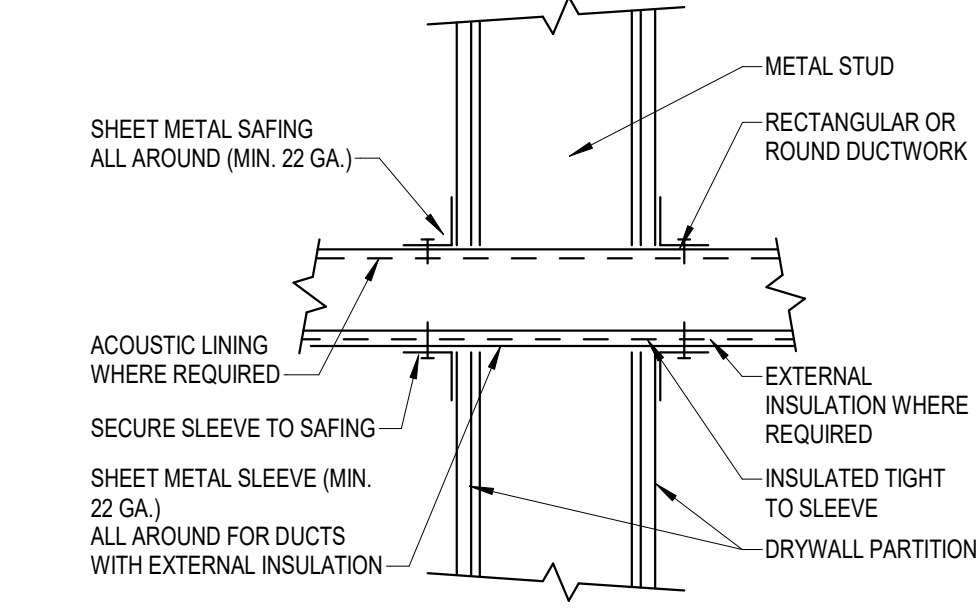


- COORDINATE ELEVATION OF DEVICES WITH ALL ADJACENT DEVICES INCLUDING THOSE WITH OTHER TRADES. ALL DEVICES WHICH HAVE ADA AND NON-ADA HEIGHTS LISTED SHALL BE MOUNTED TO COMPLY WITH ADA EXCEPT WHERE NOTED ON THE PLANS AS NON-ADA.
- GROUP DEVICES IN AN ORGANIZED AND UNIFORM MANNER.
- REFER TO ARCHITECTURAL ELEVATIONS FOR ADDITIONAL REQUIREMENTS. WHERE THESE REQUIREMENTS DIFFER FROM THE ARCHITECTURAL PLANS, THE ARCHITECTURAL PLANS SHALL TAKE PRECEDENCE. WHERE DEVICES OR EQUIPMENT ARE SHOWN ON WALLS WHERE THE ARCHITECTURAL ELEVATION INDICATES A SURFACE OTHER THAN THE BASE PAINT FOR THE PROJECT, REQUEST CLARIFICATION ON THE MOUNTING LOCATION OF THE DEVICE OR EQUIPMENT. DEVICES AND EQUIPMENT SHALL NOT BE MOUNTED TO FEATURE WALLS AND WALLS CONSTRUCTED OF MATERIALS OTHER THAN DRYWALL WITHOUT WRITTEN APPROVAL OF THE ARCHITECT.
- REFER TO ARCHITECTURAL ELEVATIONS FOR ALL PLUMBING FIXTURES.
- ALL DEVICES SHALL BE COORDINATED SO AS NOT TO INTERRUPT A BACK SPLASH OR MATERIAL TRANSITION AREA.
- PROVIDE BACKING IN WALLS WHERE WALL MOUNTED DEVICES OR EQUIPMENT ARE INSTALLED. REFER TO ARCHITECTURAL SPECIFICATIONS.

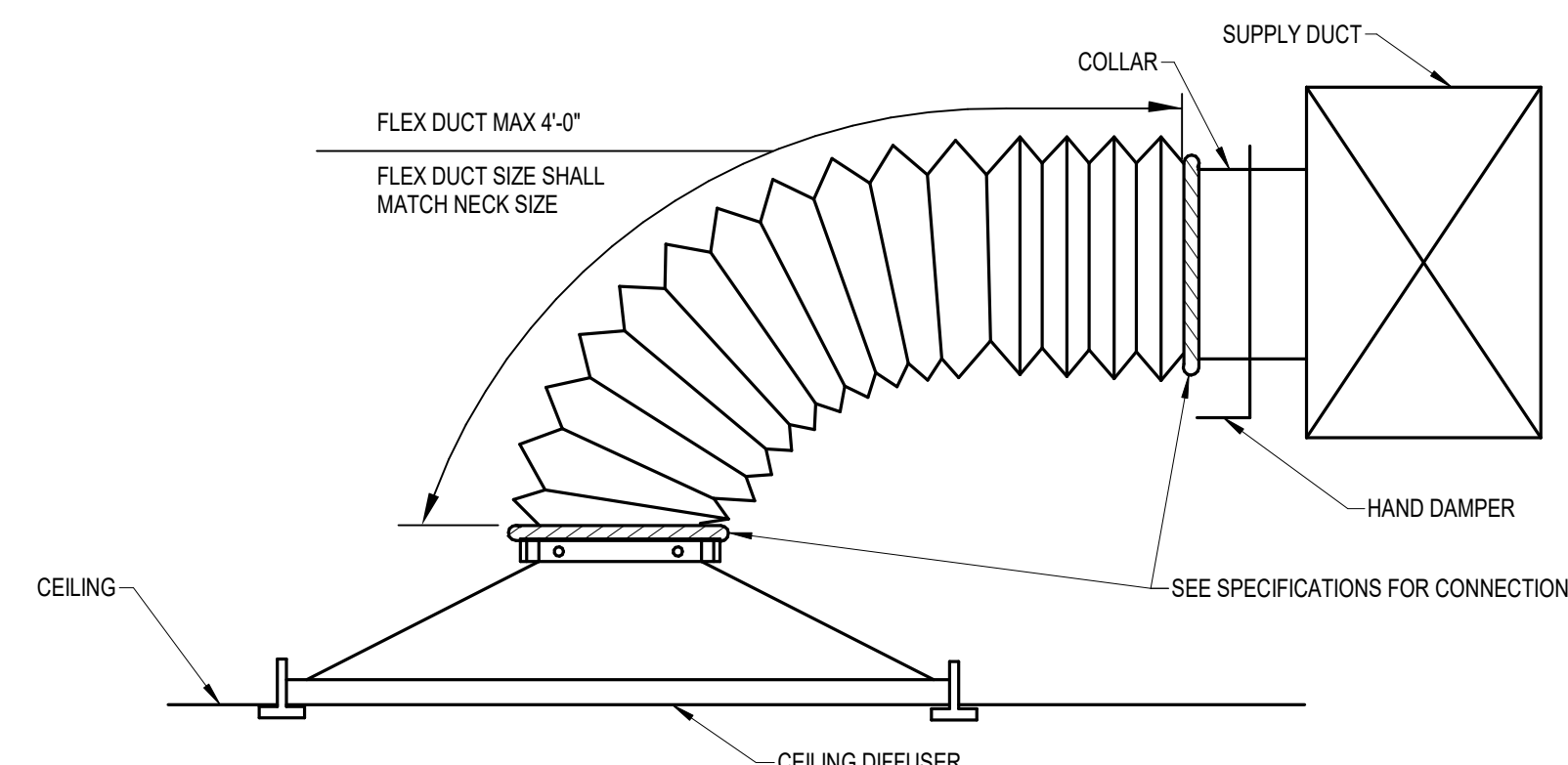
C4 MECHANICAL EQUIPMENT MOUNTING HEIGHTS
NO SCALE



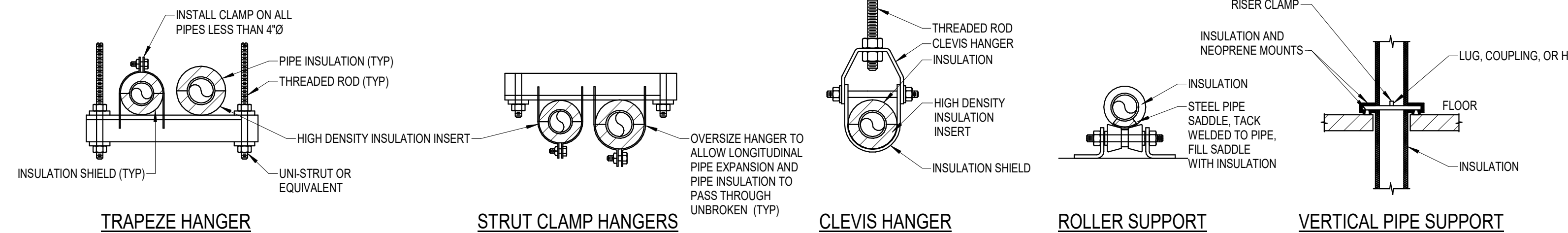
C5 AIR-COOLED CONDENSING UNIT - ROOF MOUNTED
NO SCALE



C6 DUCT PENETRATIONS - THROUGH NON-FIRE RATED WALL
NO SCALE



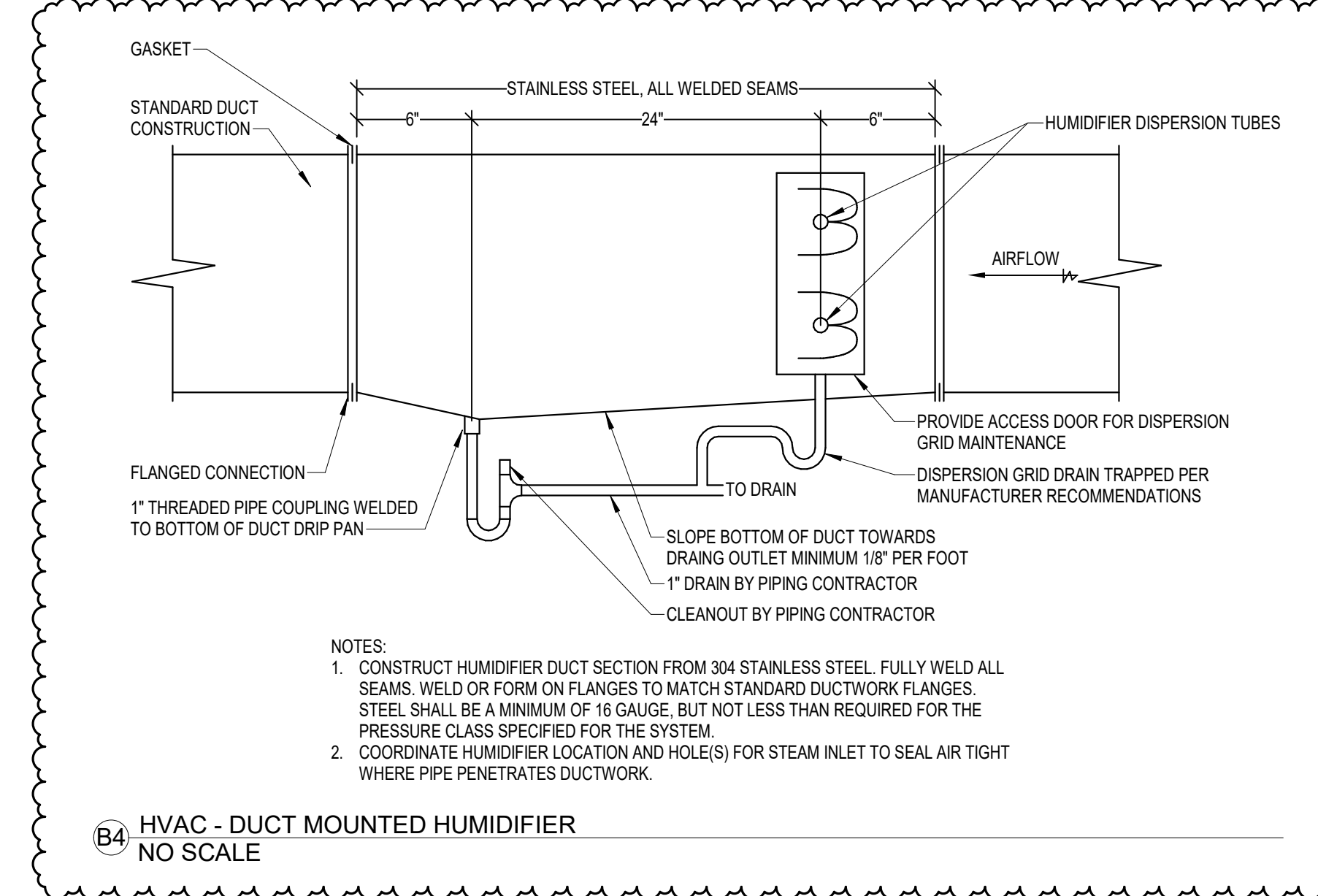
C7 DIFFUSER CONNECTION - SIDE OF DUCT
NO SCALE



C2.1 PIPE SUPPORT - TYPICAL FOR ALL PIPING
NO SCALE

ELECTRICAL DATA										HUMIDIFIER MANIFOLD								
MARK	SERVICE	KW	CONTROLLER / STARTER BY	DISCONNECT BY	VOLTAGE	PHASE	SCCR	MANUFACTURER	MODEL	CFM	STEAM CAPACITY (LB / HR)	STEAM PRESSURE (PSIG) (NOTE 4)	NUMBER OF MANIFOLDS	DUCT SIZE	ABSORPTION DISTANCE MAX (IN)	MANUFACTURER	MODEL	REMARKS
DG-1	AHU-GR				480 V	3	15.1	DRISTEEM	RTS RX	12000	80.52	ATM	7	48x24	8"	DRISTEEM	RAPIDSORB	(2)(3)(4)(5)(6)
EH-1	AHU-GR	30	CONTROLS CONTRACTOR	ELECTRICAL														(1)(2)(4)(5)(6)(7)

- REMARKS:
- PROVIDE LEGS FOR STEAM GENERATOR.
 - PROVIDE STAINLESS STEEL PIPE BETWEEN STEAM GENERATOR AND HUMIDIFIER. INSTALL A WATER TIGHT SEAL TRAP AT DISCHARGE FROM HUMIDIFIER MANIFOLD.
 - INSTALL MANIFOLD IN DUCT SHOWN ON PLANS. SEAL AROUND MANIFOLD AIR TIGHT. VERIFY EXACT DIMENSIONS.
 - STEAM PRESSURE INDICATED IS THE PRESSURE AVAILABLE DOWNSTREAM OF THE CONTROL VALVE.
 - PROVIDE IN ACCORDANCE WITH ALL MANUFACTURER INSTALLATION INSTRUCTIONS.
 - PROVIDE A DRAIN LINE COOLER FOR STEAM GENERATOR AND HUMIDIFIER MANIFOLD. DRISTEEM "DRAIN KOOLER" OR EQUIVALENT. PIPE MANIFOLD DRAIN TO EVS 156 MOP SINK.
 - "SCCR" VALUE INDICATED IS AVAILABLE SHORT CIRCUIT CURRENT (SCC) IN KILOAMPS AT THE EQUIPMENT BASED ON PRELIMINARY DESIGN PHASE CALCULATIONS. EQUIPMENT SCCR SHALL BE MINIMUM 120% OF THE AVAILABLE SCC. RATING SHALL BE ADJUSTED IF REQUIRED BASED ON FINAL SCC CALCULATION. EQUIPMENT INDICATED WITH 5 KA MAY BE PROVIDED WITH 5 KA SCCR. REVIEW SCCR WITH ELECTRICAL CONTRACTOR PRIOR TO ORDERING EQUIPMENT.

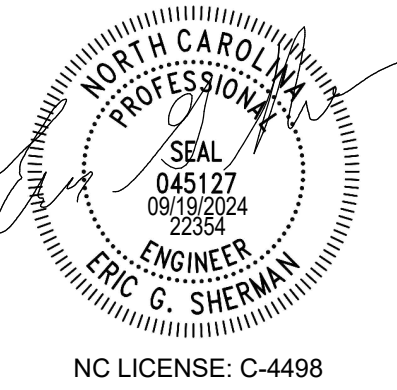


B4 HVAC - DUCT MOUNTED HUMIDIFIER
NO SCALE

- NOTES:
- CONSTRUCT HUMIDIFIER DUCT SECTION FROM 304 STAINLESS STEEL. FULLY WELD ALL SEAMS. WELD OR FORM ON FLANGES TO MATCH STANDARD DUCTWORK FLANGES. STEEL SHALL BE A MINIMUM OF 16 GAUGE, BUT NOT LESS THAN REQUIRED FOR THE PRESSURE CLASS SPECIFIED FOR THE SYSTEM.
 - COORDINATE HUMIDIFIER LOCATION AND HOLES FOR STEAM INLET TO SEAL AIR TIGHT WHERE PIPE PENETRATES DUCTWORK.



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Novant ASC Leland

SHEET NAME
MECHANICAL DETAILS & SCHEDULES

SHEET NUMBER

M501

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VENTURI VALVE SCHEDULE

Table with columns: MARK, SERVES, AIRFLOW [CFM], BOX INLET [IN], MANUFACTURER, MODEL, REMARKS. Includes entries for VALVE-S2 and VALVE-S3.

- REMARKS: 1. MAXIMUM FULL FLOW AIR PRESSURE DROP ACROSS THE VALVE ASSEMBLY SHALL BE 0.75 IN. W.C. 2. MAXIMUM RADIATED SOUND LEVEL BASED ON ARI 880-88 AT 1.0 IN. W.C. DIFFERENTIAL PRESSURE SHALL NOT EXCEED NC 45.

SPLIT SYSTEM SCHEDULE

Table with columns: MARK, SERVES, NOMINAL CAPACITY [TONS], TOTAL COOLING CAPACITY [MBH], TOTAL HEATING CAPACITY [MBH], INDOOR UNIT, OUTDOOR UNIT, ELECTRICAL DATA. Includes entries for SSAH-151, SSAH-152, SSAH-153, SSAH-154, SSAH-155, SSAH-156, SSCU-151, SSCU-152, SSCU-153, SSCU-154, SSCU-155, SSCU-156.

- REMARKS: 1. PERFORMANCE BASED ON CONDITIONS INDICATED IN THIS SCHEDULE. 2. PROVIDE CURB RAILS, ROOF SUPPORTS, AND SECUREMENTS FOR OUTDOOR UNIT.

DIFFUSER, REGISTER, AND GRILLE SCHEDULE

Table with columns: MARK, IMAGE, DESCRIPTION, MAX S.P., MATERIAL, FINISH, FACE SIZE, LENGTH, WIDTH, NECK SIZE, AIRFLOW, MANUFACTURER, MODEL, REMARKS. Includes entries for D1, D2, D3, D4, D7, G1, G2, GE1, GE2.

- REMARKS: 1. COORDINATE EXACT MODEL AND FRAME WITH CEILING/WALL TYPE. 2. COORDINATE LOCATION OF GRILLES WITH ARCHITECTURAL, CEILING PLANS AND ELEVATIONS.

VARIABLE VOLUME BOX - ELECTRIC

Table with columns: MARK, ROOM NAME, ROOM NUMBER, CONNECTED TERMINAL, OCCUPIED MINIMUM AIRFLOW, MAX HEATING AIRFLOW, MIN HEATING AIRFLOW, BOX INLET [IN], LEAVING AIR TEMP, COOLING, HEATING, ELECTRICAL DATA. Includes entries for VAV-OR-1 through VAV-PAU-19.

- REMARKS: 1. MAXIMUM FULL FLOW AIR PRESSURE DROP ACROSS THE BOX ASSEMBLY INCLUDING HEATING COIL SHALL BE 0.75 IN. W.C. 2. MAXIMUM RADIATED SOUND LEVEL BASED ON ARI 880-88 AT 1.0 IN. W.C. DIFFERENTIAL PRESSURE SHALL NOT EXCEED NC 30.

FAN SCHEDULE

Table with columns: MARK, TYPE, MAX WEIGHT [LBS], AIRFLOW [CFM], EXTERNAL STATIC [IN W.C.], MAX FAN RPM, MAX FAN BHP, HP, VOLTAGE, PHASE, MCA, MOCP, DISCONNECT BY, SCCR, MANUFACTURER, MODEL, REMARKS. Includes entries for EF-1, EF-2, EF-3, EF-4.

- REMARKS: 1. PROVIDE WITH DISCONNECT. 2. PROVIDE WITH SPEED CONTROLLER WITH OVERLOAD PROTECTION.

AHU FAN SCHEDULE

Table with columns: MARK, SERVES, QUANTITY OF FANS, TOTAL AIRFLOW [CFM], TOTAL S.P. [IN W.C.], EXTERNAL S.P. [IN W.C.], FAN RPM, FAN HP (EACH), HP, VOLTAGE, PHASE, DRIVE TYPE, REMARKS. Includes entries for RF-OR, RF-PAU, SF-OR, SF-PAU.

- REMARKS: 1. PROVIDE EACH ARRAY WITH A SINGLE VFD MOUNTED IN THE AHU'S PACKAGED CONTROL PANEL. 2. PROVIDE VIBRATION ISOLATION.

ELECTRIC HEATING COIL SCHEDULE

Table with columns: MARK, SERVES, AIRFLOW [CFM], SIZE [LxH], MIN AIRFLOW [CFM], ENTERING DB [°F], LEAVING DB [°F], KW, FLA, VOLTAGE, PHASE, MCA, MOCP, DISCONNECT BY, SCCR, MANUFACTURER, MODEL, REMARKS. Includes entries for C-154, C-159, C-AHU-OR, C-AHU-PAU-1, C-AHU-PAU-2.

- REMARKS: 1. PROVIDE LOCKABLE DISCONNECT AND INTERLOCK WITH DUCT ACCESS DOOR. MAINTAIN 42" CLEARANCE AROUND CONTROL BOX. 2. PROVIDE SCR CONTROLLER AND THERMOSTAT WITH DDC ANALOG INPUT CAPABILITY.

CONDENSATE PUMP SCHEDULE

Table with columns: MARK, FLOW [GPM], AVAILABLE HEAD [FT], SHUT-OFF HEAD [FT], TYPE OF FLUID, SUCTION/DISCHARGE SIZE [IN], HP, VOLTAGE, PHASE, SCCR, MANUFACTURER, MODEL, REMARKS. Includes entry for P-160.

- REMARKS: 1. EQUIPMENT SHORT CIRCUIT CURRENT RATING SHALL BE MINIMUM 120% OF THE AVAILABLE SHORT CIRCUIT CURRENT. REVIEW SHORT CIRCUIT CURRENT RATING WITH ELECTRICAL CONTRACTOR PRIOR TO ORDERING EQUIPMENT.

COORDINATION OF WORK SCHEDULE

Table with columns: ITEM, SUPPLIER, INSTALLER, POWER, CONTROL (4). Includes entries for MOTORS, MOTOR CONTROL CENTER, EQUIPMENT MOUNTED ELECTRICAL COMPONENTS, etc.

- REMARKS: 1. IF NO CC IN CONTRACT, MC TO WIRE CONTROLS AND EC TO PIPE CONDUIT. 2. ALL LOW VOLTAGE WIRING OF PANELS TO BE COVERED IN MC BID.

FILTER SCHEDULE

Table with columns: MARK, ASSOCIATED EQUIPMENT, FUNCTION, TYPE, DEPTH [IN], MAX FACE VELOCITY [FPM], MERV RATING, PRESSURE DROP [IN W.C.], REMARKS. Includes entries for FIL-1, FIL-2, FIL-3.

- REMARKS: 1. PROVIDE MAGNETIC GAUGE ACROSS HOUSING FILTER. 2. PROVIDE FRONT ACCESS, GASKETED, FILTER BANK IN ASSOCIATED AIR HANDLER.

HVAC PIPING INSULATION SCHEDULE

Table with columns: PIPING SYSTEM FLUID, TEMP RANGE DEG. F, THICKNESS IN INCHES FOR PIPE SIZES THROUGH SIZE LISTED, TYPE, JACKET TYPE, NCIS PLATE NUMBER (1), REMARKS. Includes entries for LPS (STEAM PRESSURES UP TO 15 PSIG INCLUDING CONDENSATE), REFRIGERANT, INDOOR CONDENSATE AND EQUIPMENT DRAINS.

- REMARKS: 1. NCIS (NATIONAL COMMERCIAL AND INDUSTRIAL INSULATION STANDARD) PLATE NUMBER REFERENCED ARE PROVIDED TO CLARIFY THE SCOPE OF INSTALLATION. INSTALL INSULATION AND ACCESSORY COMPONENTS PER APPLICABLE NCIS AND MANUFACTURERS RECOMMENDATIONS.

DUCT AND PLENUM INSULATION SCHEDULE

Table with columns: DUCT SYSTEM TYPE, INSULATION, INSTALLED R VALUE, MINIMUM DENSITY LB/CF, JACKET TYPE, NCIS PLATE NUMBER (1), REMARKS. Includes entries for SUPPLY AIR (CONCEALED), RETURN AIR (CONCEALED).

- REMARKS: 1. NCIS (NATIONAL COMMERCIAL AND INDUSTRIAL INSULATION STANDARD) PLATE NUMBER REFERENCED ARE PROVIDED TO CLARIFY THE SCOPE OF INSTALLATION. INSTALL INSULATION AND ACCESSORY COMPONENTS PER APPLICABLE NCIS AND MANUFACTURERS RECOMMENDATIONS.

DX COIL/CONDENSING UNIT SCHEDULE

Table with columns: MARK, SERVES, AIRFLOW [CFM], MIN ROWS, MAX COIL VELOCITY [FPM], ENTERING DB [°F], LEAVING DB [°F], TOTAL CAPACITY [MBH], SENSIBLE CAPACITY [MBH], REFRIGERANT TYPE, MANUFACTURER, MODEL, REMARKS. Includes entries for CC-OR, CC-PAU.

- REMARKS: 1. COIL AND CONDENSING UNIT SHALL BE BY SAME MANUFACTURER. 2. AIR PRESSURE DROP BASED ON SATURATED COIL.

AIR HANDLING UNIT SCHEDULE

Table with columns: MARK, LOCATION, TYPE, OVERALL SIZE [LxWxH], SUPPLY AIR [CFM], OCCUPIED MINIMUM OUTSIDE AIR [CFM], SERVICE VESTIBULE, CAPACITY [TONS], SUPPLY FAN MARK, RETURN FAN MARK, DX COOLING COIL MARK, HEATING COIL MARK, PRE FILTER MARK, FINAL FILTER MARK, KW, VOLTAGE, PHASE, MCA, MOCP, DISCONNECT BY, SCCR, MANUFACTURER, MODEL, REMARKS. Includes entries for AHU-OR, AHU-PAU.

- REMARKS: 1. PROVIDE WITH UV LIGHTS WITH EXTERIOR CONTROL SWITCH. 2. PROVIDE WITH PACKAGED, UNIT MOUNTED CONTROL PANELS INCLUDING NECESSARY FAN AND COMPRESSOR SPEED CONTROLLERS.



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A/E #: 22354

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SHEET NAME: MECHANICAL SCHEDULES

SHEET NUMBER: M600

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D

C

B

A

SEQUENCE OF OPERATION - EF-1 & EF-3

EACH FAN HAS AN ISOLATION DAMPER WITH END SWITCH TO PROVE DAMPER OPEN AND CURRENT STATUS SWITCH TO PROVE FAN OPERATION...

FAN SHALL RUN AND MOTORIZED DAMPER SHALL BE OPEN WHEN THE BUILDING IS OCCUPIED. THE MOTORIZED DAMPER SHALL CLOSE ON LOSS OF POWER TO FAN...

GENERAL NOTES

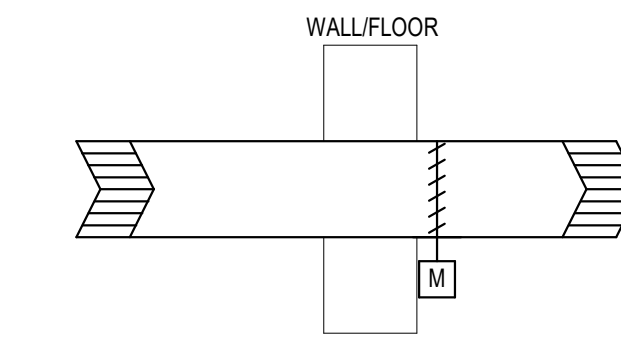
- 1. WHERE MULTIPLE SPACES ARE SERVED BY A SINGLE EXHAUST FAN, WIRE ALL OCCUPANCY SENSORS TO EXHAUST FAN CONTROLLER.

SEQUENCE OF OPERATION - EF-2 & EF-4

EACH FAN HAS AN ISOLATION DAMPER WITH END SWITCH TO PROVE DAMPER OPEN, SPEED CONTROLLER WITH OVERCURRENT PROTECTION AND CURRENT STATUS SWITCH TO PROVE FAN OPERATION...

FAN SHALL RUN CONTINUOUSLY DURING OCCUPIED MODE. DURING UNOCCUPIED MODE, THE VENTURI VALVE SERVING THE ASSOCIATED SPACE SHALL MODULATE TO ITS MINIMUM AIRFLOW...

EXHAUST FAN NO SCALE



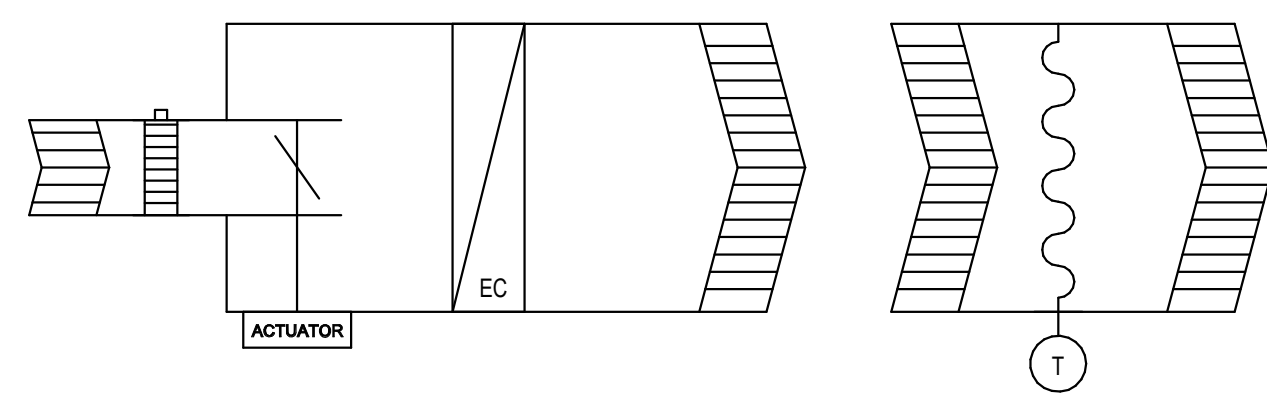
SEQUENCE OF OPERATION

- 1. AIR HANDLING UNIT SUPPLY/RETURN FAN STATUS - OFF
2. FIRE ALARM STATUS FOR ZONE CONTAINING DAMPER + ALARM
3. SMOKE DETECTOR STATUS + ALARM

GENERAL NOTES

- 1. PROVIDE TEST AND RESET SWITCHES FOR EACH DAMPER LOCATED AT THE CONTROL PANEL OR ABOVE CEILING AT AN ACCESSIBLE LOCATION WITHIN SIGHT OF DAMPER.

SMOKE DAMPER - FIRE SMOKE DAMPER NO SCALE



SEQUENCE OF OPERATION

EACH ZONE HAS A TERMINAL AIR BOX WITH AN ELECTRIC REHEAT COIL WITH SCR CONTROLLER AND A DIRECT DIGITAL CONTROLLER. INSTALL A SINGLE POINT TEMPERATURE SENSOR 3'-0" DOWNSTREAM OF THE TERMINAL BOX...

ON A CALL FOR COOLING, THE TERMINAL AIR BOX DAMPER SHALL MODULATE BETWEEN ITS MINIMUM AND MAXIMUM AIRFLOWS TO MAINTAIN THE SPACE TEMPERATURE SETPOINT...

ON A CALL FOR HEATING, THE TERMINAL AIR BOX DAMPER AND REHEAT COIL SHALL MODULATE OPEN IN UNISON UNTIL THE SPACE TEMPERATURE SETPOINT IS MAINTAINED...

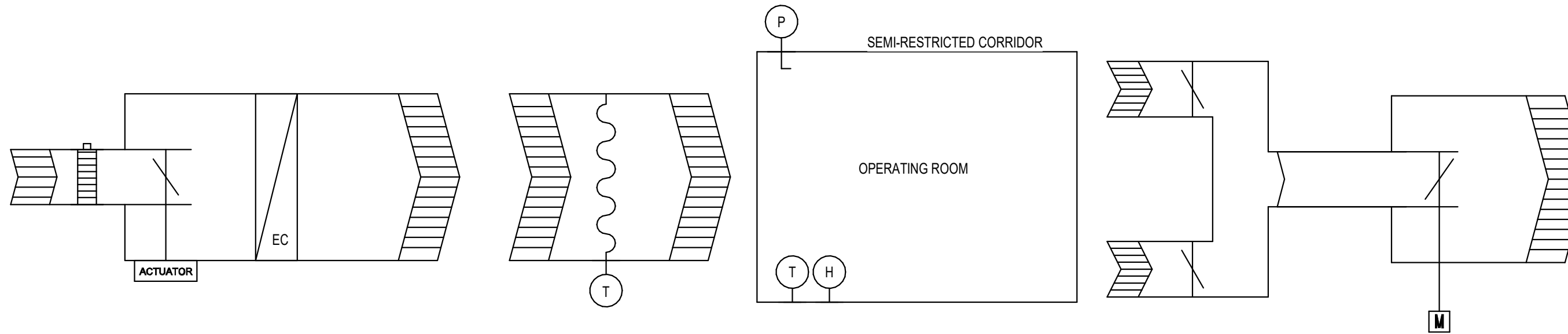
FOR SPACES WITH OCCUPANCY SENSORS AS SHOWN ON THE ELECTRICAL DRAWINGS, THE TERMINAL AIR BOX SHALL HAVE OCCUPIED/UNOCCUPIED CONTROL MODES. TERMINAL BOX CONTROLS SHALL INTERFACE TO THE LIGHTING OCCUPANCY SENSOR VIA AN AUXILIARY CONTACT...

THE DDC SYSTEM SHALL UTILIZE FEEDBACK FROM ALL TERMINAL AIR BOX POSITIONS TO RESET THE SUPPLY DUCT DIFFERENTIAL STATIC PRESSURE.

GENERAL NOTES

- 1. TERMINAL AIR BOX CONTROLLER SHALL HAVE A MINIMUM SERVICE CLEARANCE OF 36 INCHES AND MUST BE WITHIN 3 FEET OF CEILING.
2. WHERE MULTIPLE SPACES ARE SERVED BY A SINGLE TERMINAL AIR BOX, WIRE ALL OCCUPANCY SENSORS TO THE TERMINAL AIR BOX CONTROLLER.
3. MOUNT ALL ROOM SENSORS AT 48" ABOVE FINISHED FLOOR, COORDINATE LOCATION WITH NEARBY DEVICES SUCH AS LIGHT SWITCHES.

VAV BOX - ELECTRIC REHEAT NO SCALE



SEQUENCE OF OPERATION

DESCRIPTION: EACH OPERATING ROOM HAS A SUPPLY TERMINAL AIR BOX WITH AN ELECTRIC REHEAT COIL AND SCR CONTROLLER, SUPPLY DIFFUSERS, RETURN TERMINAL AIR BOX, ROOM PRESSURE CONTROLLER, AND DIRECT DIGITAL CONTROLLER...

UNOCCUPIED SETBACK MODE:

- WHEN THE ROOM PRESSURE CONTROLLER INDICATES THAT THE ROOM IS UNOCCUPIED, THE RETURN TRACKING BOX SHALL BE CLOSE AND THE SUPPLY BOX SHALL MODULATE TO MAINTAIN A MINIMUM SPACE PRESSURIZATION OF 0.10 INCHES W.C. (ADJUSTABLE) RELATIVE TO THE ADJACENT CORRIDOR.
ON A CALL FOR HEATING, THE ELECTRIC REHEAT COIL SHALL MODULATE UNTIL SETPOINT IS MAINTAINED OR THE MAXIMUM HEATING DISCHARGE AIR TEMPERATURE IS REACHED...

ROOM ACTIVE MODE:

- WHEN THE ROOM PRESSURE CONTROLLER INDICATES THAT THE ROOM IS IN POSITIVE ISOLATION MODE, THE ROOM PRESSURE MONITOR SYSTEM ALARM SHALL BE ACTIVE AND SHALL SEND AN ALARM TO THE OPERATOR INTERFACE WHENEVER THE POSITIVE DIFFERENTIAL PRESSURE IS LESS THAN 0.01 INCHES W.C. (ADJUSTABLE) PROVIDE A DOOR INTERLOCK SWITCH ON DOOR ENTERING ROOM TO DISABLE ALARM FOR 90 SECONDS (ADJUSTABLE) WHEN THE DOOR IS OPENED.
THE SUPPLY TERMINAL AIR BOX SHALL MODULATE TO MAINTAIN 1750 CFM (ADJUSTABLE) WITHIN THE OPERATING ROOM. THE RETURN TERMINAL AIR BOX SHALL MODULATE TO MAINTAIN A MINIMUM SPACE PRESSURIZATION OF 0.02 INCHES W.C. (ADJUSTABLE) RELATIVE TO THE ADJACENT CORRIDOR.

GENERAL NOTES

- 1. TERMINAL AIR BOX CONTROLLER SHALL HAVE A MINIMUM SERVICE CLEARANCE OF 48 INCHES AND MUST BE WITHIN 3 FEET OF CEILING.
2. MOUNT ALL SENSORS AT 48" ABOVE FINISHED FLOOR, COORDINATE LOCATION WITH NEARBY DEVICES SUCH AS LIGHT SWITCHES.
3. SEAL ALL SPACE BOUNDARY PENETRATIONS AIR TIGHT. PENETRATION SEALS MUST INCLUDE EXTERIOR AND INTERIOR OF CONDUITS.
4. THE DDC SYSTEM SHALL UTILIZE FEEDBACK FROM ALL SUPPLY TERMINAL AIR BOX POSITIONS TO RESET THE SUPPLY DUCT DIFFERENTIAL STATIC PRESSURE.

OPERATING ROOM NO SCALE

SEQUENCE OF OPERATION

OUTDOOR REFERENCE: CONSISTS OF A WEATHER STATION CAPABLE OF PROVIDING DRY BULB TEMPERATURE, RELATIVE HUMIDITY, ATMOSPHERIC PRESSURE, AND CARBON DIOXIDE LEVELS.

ROOF TOP UNIT AHU-OR: CONSISTS OF A CUSTOM VARIABLE AIR VOLUME AIR HANDLER WITH SUPPLY FAN ARRAY WITH VFDs, RETURN FAN ARRAY WITH VFDs, OUTDOOR AIR DAMPER, RETURN AIR DAMPER, RELIEF AIR DAMPER, PRE-FILTER BANK, DX COOLING COIL, MODULATING HOT GAS REHEAT COIL, UV LIGHTS, FINAL FILTER BANK, UNIT ISOLATION DAMPERS, AND DX CONDENSING UNIT WITH MANUFACTURER SUPPLIED CONTROLS.

UNIT REFRIGERATION CONTROLS SHALL INTERFACE WITH BMS AND MONITOR ALL ALARMS. SUPPLY AIR TEMPERATURE SHALL BE RESET BETWEEN 55°F AND 65°F (ADJUSTABLE). SUPPLY AIR TEMPERATURE SHALL BE RESET LINEARLY BASED ON OUTSIDE AIR TEMPERATURE (65°F AT 70°F AND 80°F AT 85°F (ADJUSTABLE)).

ROOF TOP UNIT AHU-PACU: CONSISTS OF A PACKAGED VARIABLE AIR VOLUME AIR HANDLER WITH SUPPLY FAN ARRAY WITH VFDs, RETURN FAN ARRAY WITH VFDs, OUTDOOR AIR DAMPER, RETURN AIR DAMPER, RELIEF AIR DAMPER, PRE-FILTER BANK, DX COOLING COIL, MODULATING HOT GAS REHEAT COIL, UNIT ISOLATION DAMPERS, AND DX CONDENSING UNIT WITH MANUFACTURER SUPPLIED CONTROLS.

DUCT MOUNTED ELECTRIC COILS (C-AHU-OR, C-AHU-PACU) 1 & 2: PROVIDE A DUCT MOUNTED SINGLE POINT TEMPERATURE SENSOR 9'-0" DOWNSTREAM OF THE ELECTRIC COIL OR BEFORE THE FIRST TAKEOFF DOWNSTREAM OF THE COIL. THE ELECTRIC COIL SHALL MODULATE TO MAINTAIN A DISCHARGE AIR TEMPERATURE OF 65°F (ADJUSTABLE) WHILE THE ELECTRIC COILS ARE ENABLED.

DUCT MOUNTED HUMIDIFIER: THE HUMIDIFIER SHALL MODULATE TO MAINTAIN THE OR RELATIVE HUMIDITY SETPOINT. THE DDC SYSTEM SHALL OVERRIDE THE SIGNAL TO THE HUMIDIFIER CONTROLLER TO LIMIT THE SUPPLY AIR RELATIVE HUMIDITY TO A MAXIMUM OF 70% (ADJUSTABLE).

FIRE ALARM STATUS: CONSISTS OF AN OUTPUT FROM THE FIRE ALARM PANEL RELAY TO THE DDC. REPORT STATUS OF FIRE ALARM SYSTEM TO DDC AND MAKE AVAILABLE TO ALL EQUIPMENT WITH SEQUENCES REQUIRING THE REFERENCE INFORMATION.

UTILITY METERS: CONSISTS OF OUTPUTS FROM THE VARIOUS BUILDING UTILITY METERS. WHEN METERS DO NOT HAVE A DIRECT OUTPUT, PROVIDE A PULSE COUNTER AND RELAY TO DDC. REPORT UTILITY METER CONSUMPTION VALUES TO DDC. REPORT TOTALED VALUES BASED ON DAY, MONTH AND YEAR.

PLUMBING EQUIPMENT: CONSISTS OF OUTPUTS FROM EQUIPMENT SUPPLIED CONTROLS. REPORT STATUS OF EQUIPMENT ALARM TO DDC.

MEDICAL GAS EQUIPMENT: NFPA ALLOWS A BMS TO SERVE AS SECOND MEANS OF MONITORING/ALARMING MEDICAL GAS SOURCE. PROJECT INCLUDES TWO (2) SUCH MASTER ALARMS, ONE IN RECEPTION AND ONE IN THE SUPERVISOR'S OFFICE.

EMERGENCY GENERATOR: CONSISTS OF OUTPUTS FROM EQUIPMENT SUPPLIED CONTROLS. REPORT STATUS OF EQUIPMENT ALARM TO DDC.

SPLIT SYSTEM DX AIR: CONSISTS OF WALL/CEILING MOUNTED BLOWER EVAPORATOR UNIT, ROOF/GRADE MOUNTED CONDENSING UNIT, WALL MOUNTED CONDITIONING SYSTEMS, THERMOSTAT PROVIDED BY TEMPERATURE CONTROLS CONTRACTOR, AND MANUFACTURER SUPPLIED TEMPERATURE CONTROLLER.

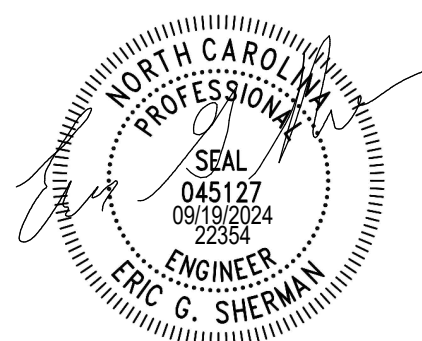
DOMESTIC HOT WATER: CONSISTS OF DIGITAL HOT WATER MIXING VALVE, MANUFACTURER SUPPLIED CONTROL MODULE, TEMPERATURE SENSOR AND CIRCULATING PUMP. PROVIDE SETPOINT OF 120°F (ADJUSTABLE) FROM DDC TO MANUFACTURER SUPPLIED CONTROL MODULE.

WATER DETECTOR ALARM: CONSISTS OF MICROPROCESSOR BASED WATER DETECTOR MOUNTED TO FLOOR OR ON WALL WITH REMOTE DETECTION CABLE. WATER DETECTOR SHALL BE GREYSTONE WD-100 SERIES OR APPROVED EQUAL.

HUMIDIFIER DRAIN COOLER: CONSISTS OF DRAIN COOLER WITH TEMPERATURE SENSOR ON DISCHARGE PIPING PROVIDED BY TEMPERATURE CONTROLS CONTRACTOR. IF DISCHARGE TEMPERATURE EXCEEDS 140°F (ADJUSTABLE), THE CONTROL VALVE OR CONTROL SWITCH OF THE DEVICE SERVED BY THE DRAIN COOLER SHALL CLOSE OR BE SWITCHED OFF AND AN ALARM SENT TO THE OPERATOR INTERFACE.

GENERAL NOTES: 1. WIRE ALL SENSORS AND CONTROL DEVICES BACK TO CONTROLLER. 2. COORDINATE EQUIPMENT INTERFACES WITH OTHER TRADES.

RTUs AND MISCELLANEOUS NO SCALE



ISSUE FOR: CONSTRUCTION DOCUMENTS

REVISIONS:

Table with 3 columns: Revision Number, Revision Description, Revision Date. Includes Addendum 1 and Modification 2.

EMERGENCY GENERATOR: CONSISTS OF OUTPUTS FROM EQUIPMENT SUPPLIED CONTROLS. REPORT STATUS OF EQUIPMENT ALARM TO DDC.

DOMESTIC HOT WATER: CONSISTS OF DIGITAL HOT WATER MIXING VALVE, MANUFACTURER SUPPLIED CONTROL MODULE, TEMPERATURE SENSOR AND CIRCULATING PUMP.

WATER DETECTOR ALARM: CONSISTS OF MICROPROCESSOR BASED WATER DETECTOR MOUNTED TO FLOOR OR ON WALL WITH REMOTE DETECTION CABLE.

HUMIDIFIER DRAIN COOLER: CONSISTS OF DRAIN COOLER WITH TEMPERATURE SENSOR ON DISCHARGE PIPING PROVIDED BY TEMPERATURE CONTROLS CONTRACTOR.

GENERAL NOTES: 1. WIRE ALL SENSORS AND CONTROL DEVICES BACK TO CONTROLLER. 2. COORDINATE EQUIPMENT INTERFACES WITH OTHER TRADES.

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