

GENERAL HVAC NOTES

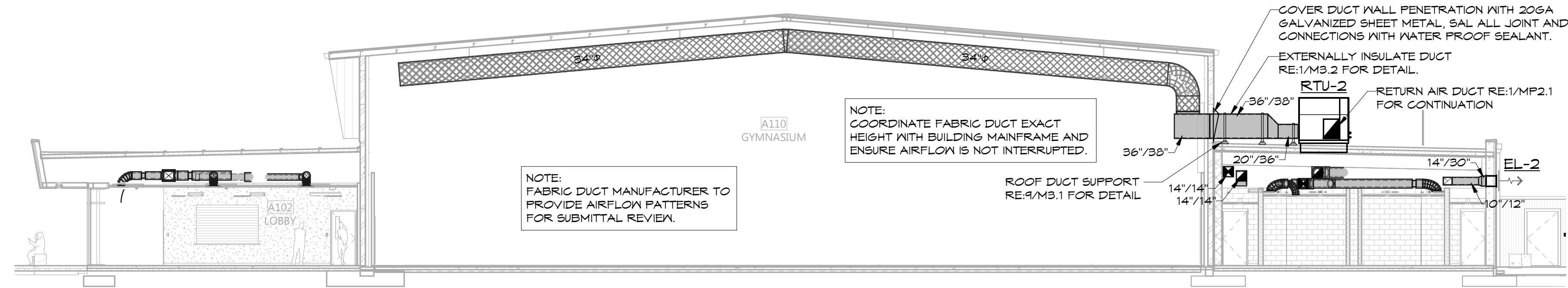
- COORDINATE GRILLE LOCATIONS WITH LIGHT FIXTURES, SPRINKLERS AND CEILING GRID.
- INDICATED DUCT SIZES ARE NET FREE AREA.
- ADJUST ALL AIR QUANTITIES AS SHOWN ON THE PLANS AFTER COMPLETION OF THE JOB.
- INSULATE THE SUPPLY GRILLE TOPS, RETURN AIR GRILLE PLENUMS AND EXHAUST AIR PLENUMS WITH 2 IN., 3/4 LB DENSITY FOIL BACKED INSULATION.
- FIRE DAMPERS ARE INDICATED ON MECHANICAL DRAWINGS. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY LOCATIONS AND FIRE RATING REQUIREMENTS WHERE ANY DUCT PASSES THROUGH A PARTITION. REFER TO ARCHITECTURAL PLANS FOR LOCATION OF ALL FIRE AND SMOKE PARTITIONS. VERIFY REQUIRED DAMPER ASSEMBLY IN ALL DUCTS PENETRATING THESE WALLS PER ALL STATE AND LOCAL CODES.
- EXTERNALLY INSULATE ALL ROUND SUPPLY AND RETURN DUCT. INTERNALLY INSULATE ALL RECTANGULAR SUPPLY AND RETURN DUCT PER MECHANICAL CODE. ATTACH THE INTERNAL INSULATION TO THE DUCT WITH APPROVED ADHESIVE AND WELDED FASTENERS.
- MECHANICAL CONTRACTOR SHALL COORDINATE ALL DUCTWORK WITH FIELD CONDITIONS AND PROVIDE ALL OFFSETS, BENDS, TRANSITIONS AND SPECIAL FITTINGS FOR A COMPLETE INSTALLATION OF THE SYSTEMS.
- USE FLANGED AND GASKETED DUCT CONSTRUCTION FOR RECTANGULAR DUCT CONVEYING AIR AT STATIC PRESSURES ABOVE 2 IN. W.G. USE LOCKED SEAM SPIRAL DUCT CONSTRUCTION FOR ROUND DUCT CONVEYING AIR AT STATIC PRESSURES ABOVE 2 IN. W.G. ALL HIGH PRESSURE DUCT CONSTRUCTION SHALL ADHERE TO SMACNA DUCT CONSTRUCTION STANDARDS (LATEST EDITION) FOR DUCT CLASSIFICATION UP TO 5 IN. W.G.
- INTERIOR OF ALL DUCT PLENUMS VISIBLE THROUGH GRILLE SHALL BE PAINTED MATTE BLACK PRIOR TO INSTALLATION.
- INTERLOCK EXHAUST FANS WITH LIGHT SWITCHES. REFER TO ELECTRICAL PLANS.
- PAINT ALL SUPPLY AND RETURN AIR GRILLES NOT SPECIFIED AS PRE-FINISHED, TO ARCHITECTS SPECIFICATIONS UNLESS OTHERWISE SPECIFIED.
- MAINTAIN 10 FT. MINIMUM CLEARANCE BETWEEN FRESH AIR INTAKES AND ALL EXHAUST OUTLETS, GAS FLUES AND PLUMBING VENTS.
- INSTALL VOLUME CONTROL DAMPERS IN SUPPLY, RETURN, EXHAUST AND FRESH AIR BRANCH DUCT RUNS.
- REGULATING AIR SYSTEMS WITH A FAN CAPACITY GREATER THAN 2,000 NOMINAL CFM SHALL AUTOMATICALLY SHUT DOWN BY MEANS OF AN APPROVED SMOKE DETECTOR PLACED IN THE RETURN AIR STREAM PRIOR TO ANY EXHAUSTING FROM THE BUILDING OR MIXING WITH FRESH AIR MAKEUP. ALL CONTROLS SHALL BE LISTED. UPON ACTIVATION OF THE SAFETY CONTROL SHALL NOT RESTART UNTIL THE SAFETY CONTROL IS MANUALLY RESET.
- ALL MECHANICAL INSTALLATIONS SHALL CONFORM TO THE LATEST ACCEPTABLE MECHANICAL CODE.
- SEAL ALL DUCT SEAMS WITH HARDCAST IRON GRIP 601 SEALANT SYSTEM OR AN APPROVED EQUAL. DUCT TAPE, WHETHER LISTED OR NOT, WILL NOT BE ACCEPTED.
- FABRICATE AND INSTALL ALL GALVANIZED DUCT SYSTEMS TO SMACNA DUCT CONSTRUCTION STANDARDS, LATEST EDITION, AND MECHANICAL CODE.
- FABRICATE AUXILIARY CONDENSATE DRAIN PAN UNDER ENTIRE AIR HANDLER WITH CONDENSATE PAN SWITCH INTERLOCKED WITH AIR HANDLER FOR SHUT DOWN WHEN CONDENSATE OVER FLOW IS SENSED.
- EVERY ATTIC OR FURRED SPACE IN WHICH MECHANICAL EQUIPMENT IS INSTALLED SHALL BE ACCESSIBLE BY AN OPENING AND PASSAGEWAY AS LARGE AS THE LARGEST PIECE OF THE EQUIPMENT AND IN NO CASE LESS THAN 22 X 36 INCHES CONTINUOUS FROM THE OPENING TO THE EQUIPMENT AND ITS CONTROLS. THE OPENING TO THE PASSAGEWAY SHALL BE LOCATED NOT MORE THAN 20 FT. FROM THE EQUIPMENT MEASURED ALONG THE CENTERLINE OF SUCH PASSAGEWAY. EVERY PASSAGEWAY SHALL BE UNOBSTRUCTED AND SHALL HAVE SOLID CONTINUOUS FLOORING NOT LESS THAN 24 IN. WIDE FROM THE EQUIPMENT. ON THE CONTROL SIDE AND OTHER SIDES WHERE ACCESS IS NECESSARY FOR SERVICING THE EQUIPMENT, A LEVEL PLATFORM EXTENDING A MINIMUM 30 IN. FROM THE EDGE OF THE EQUIPMENT WITH A 36 IN. HIGH CLEAR WORKING SPACE SHALL BE PROVIDED. TOP OR BOTTOM SERVICE EQUIPMENT SHALL HAVE A FULL CLEARANCE ABOVE OR BELOW THE UNIT FOR COMPONENT REMOVAL.
- SMOKE DETECTOR PROVIDED AND INSTALLED BY FIRE ALARM CONTRACTOR.
- SUPPLY AIR SYSTEMS AND RETURN AIR SYSTEMS INSTALLED IN AN ATTIC, VENTILATED CRAWL SPACE OR OTHER NON-CONDITIONED AREA SHALL BE INSULATED.
- SPRINKLER CONTRACTOR TO BE RESPONSIBLE FOR ROUTING ALL SPRINKLER PIPING TO AVOID ALL UNCONDITIONED SPACES.
- DO NOT SCALE DIRECTLY FROM THE HVAC DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONAL INFORMATION.
- MECHANICAL CONTRACTOR SHALL INSTALL ALL EQUIPMENT, FANS AND APPLIANCES A MINIMUM OF 10 FEET FROM A ROOF EDGE OR OPEN SIDE WHERE SUCH EDGE OR OPEN SIDE IS GREATER THAN 30 INCHES ABOVE A FLOOR, ROOF OR GRADE BELOW. GUARD RAILS A MINIMUM OF 42 INCHES ABOVE THE ELEVATED SURFACE SHALL BE PROVIDED AND INSTALLED BY THE GENERAL CONTRACTOR AND EXTENDED A MINIMUM OF 30 INCHES BEYOND EACH END OF SUCH EQUIPMENT, FAN OR APPLIANCE WHERE APPLIANCES, EQUIPMENT, FANS OR OTHER COMPONENTS ARE LOCATED WITHIN THE REQUIRED 10 FOOT CLEARANCE REQUIREMENT. THE GUARD SHALL BE CONSTRUCTED SO AS TO PREVENT THE PASSAGE OF A 21 INCH DIAMETER SPHERE AND COMPLY WITH THE LOADING REQUIREMENTS FOR GUARDS SPECIFIED IN THE LATEST ACCEPTED INTERNATIONAL BUILDING CODE.
- EVERY APPLIANCE LOCATED ON A ROOF OF A BUILDING SHALL BE INSTALLED ON A SUBSTANTIAL LEVEL PLATFORM. WHENEVER THE ROOF HAS A SLOPE 4:12 OR GREATER, A LEVEL WORKING PLATFORM NOT LESS THAN 30 IN. DEEP SHALL BE PROVIDED IN FRONT OF THE ENTIRE FIREBOX AND CONTROL SIDES OF THE APPLIANCE. ALL SIDES OF ANY WORKING PLATFORM FACING ANY PORTION OF THE ROOF EDGE BELOW THE PLATFORM SHALL BE PROTECTED BY SUBSTANTIAL RAILING 42 IN. HIGH WITH VERTICAL RAILS NOT MORE THAN 21 IN. APART, EXCEPT THAT PARAPETS AT LEAST 24 IN. HIGH MAY BE UTILIZED IN LIEU OF RAILS OR GUARDS. REQUIRED WORKING PLATFORMS AND RAILINGS MAY BE OMITTED WHEN ACCESS TO THE EQUIPMENT IS THROUGH A REQUIRED ROOF SCUTTLE AND ALL OF THE FOLLOWING PROVISIONS ARE MET:

HVAC KEYED NOTES

- MAINTAIN A MINIMUM OF 10 FT. CLEARANCE BETWEEN ALL EXHAUST OUTLETS, FLUES, PLUMBING VENTS AND ANY FRESH AIR INTAKES. IF 10 FT. CLEARANCE CAN NOT BE MAINTAINED EXHAUST OUTLET, FLUE, OR VENT MUST TERMINATE AT A POINT AT LEAST 36 IN. ABOVE HIGHEST FRESH AIR INTAKE WITHIN 10 FT. LIMIT.
- LOCATE THERMOSTAT, CO2 SENSOR OR HUMIDISTAT AS INDICATED WITH THE CENTER OF THE THERMOSTAT AT 48 IN. ABOVE FINISHED FLOOR. SEAL ALL THERMOSTAT CONDUITS AT TOP AND BOTTOM OF CONDUIT. PROVIDE INSULATED BACKING FOR MOUNTING THERMOSTATS.
- MECHANICAL CONTRACTOR SHALL INSTALL ALL EQUIPMENT, FANS AND APPLIANCES A MINIMUM OF 10 FEET FROM A ROOF EDGE OR OPEN SIDE WHERE SUCH EDGE OR OPEN SIDE IS GREATER THAN 30 INCHES ABOVE A FLOOR, ROOF OR GRADE BELOW. GUARD RAILS A MINIMUM OF 42 INCHES THE ELEVATED SURFACE SHALL BE PROVIDED AND INSTALLED BY THE GENERAL CONTRACTOR AND EXTENDED A MINIMUM OF 30 INCHES BEYOND EACH END OF SUCH EQUIPMENT, FAN OR APPLIANCE WHERE APPLIANCES, EQUIPMENT, FANS OR OTHER COMPONENTS ARE LOCATED WITHIN THE REQUIRED 10 FOOT CLEARANCE REQUIREMENT. THE GUARD SHALL BE CONSTRUCTED SO AS TO PREVENT THE PASSAGE OF A 21 INCH DIAMETER SPHERE AND COMPLY WITH THE LOADING REQUIREMENTS FOR GUARDS SPECIFIED IN THE LATEST ACCEPTED INTERNATIONAL BUILDING CODE.
- MECHANICAL CONTRACTOR TO PROVIDE SWITCH TO BE USED FOR EMERGENCY OPERATION/OVERRIDE BUTTON OF RTU-142 AND F-142 UNITS IN STORM EVENT. RE:1/M2.1 FOR SWITCH LOCATION.

MECHANICAL LEGEND

- | | | | |
|---|---|--------|--|
| ■ | SUPPLY DUCT SECTION | ■ | SUPPLY, RETURN, OR EXHAUST DUCT |
| ■ | RETURN OR EXHAUST DUCT SECTION | ■ | DUCT SOX |
| □ | CEILING SUPPLY GRILLE | ≡ OR ≡ | VOLUME DAMPER |
| □ | CEILING RETURN GRILLE | ≡ | RECTANGULAR DUCT FIRE DAMPER (NUMBER DENOTES FIRE RATING OF WALL. EXAMPLE: 1FD = ONE HR. RATED WALL) |
| □ | CEILING EXHAUST GRILLE | ○ | ROUND DUCT FIRE DAMPER (NUMBER DENOTES FIRE RATING OF 1FD WALL. EXAMPLE: 1FD = ONE HR. RATED WALL) |
| ⊥ | SIDEWALL SUPPLY OR RETURN GRILLE | ⊗ | FLEX DUCT CONNECTION MAXIMUM OF 5 FT. |
| ① | SEE KEYED NOTES | ☉ | SMOKE DETECTOR |
| Ⓜ | HUMIDITY SENSOR | F-① | THERMOSTAT, MOUNT AT 48" A.F.F TO TOP (NUMBER DENOTES FURNACE OR AIR HANDLER UNIT) |
| Ⓜ | MOTORIZED 24V DAMPER, DAMPER BY MECHANICAL CONTRACTOR, ACTUATOR BY CONTROL CONTRACTOR | | |



① FABRIC DUCT SECTION
NTS

NOTES:
REFER TO SHEET M2.1 FOR HVAC PLANS. REFER TO SHEET M3.1 FOR HVAC DETAILS. REFER TO SHEET M5.1 FOR HVAC SCHEDULES.

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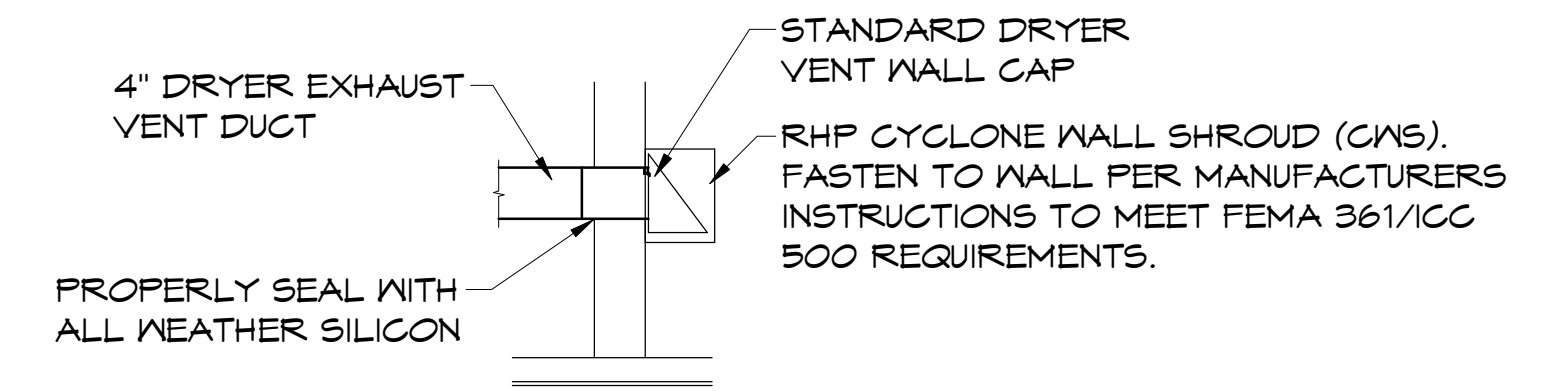
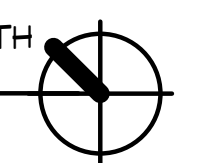


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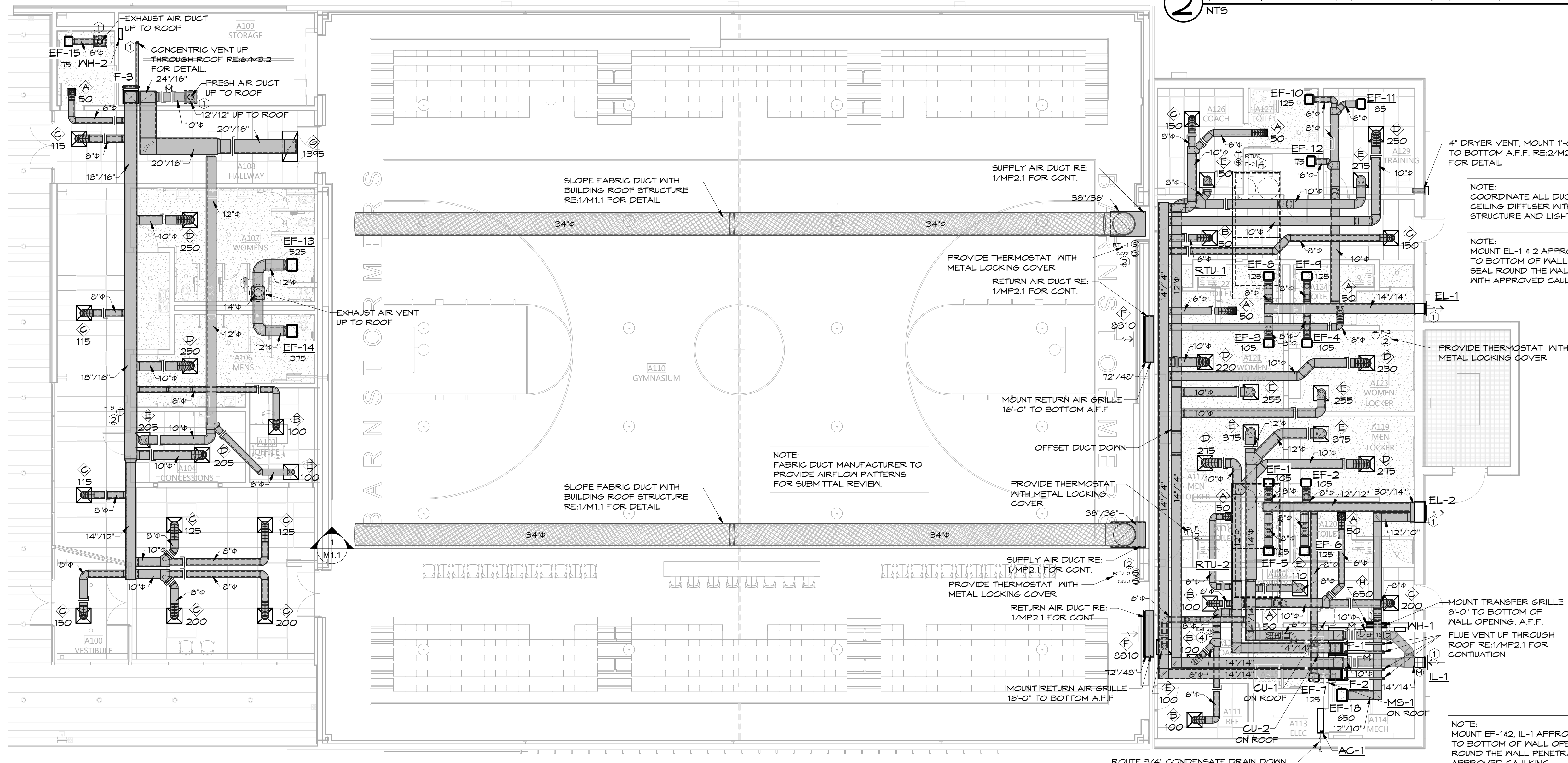
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REVISION DATES
01/24/2025

HVAC NOTES & LEGEND
SHEET
M1.1
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2 DRYER WALL CAP DETAIL
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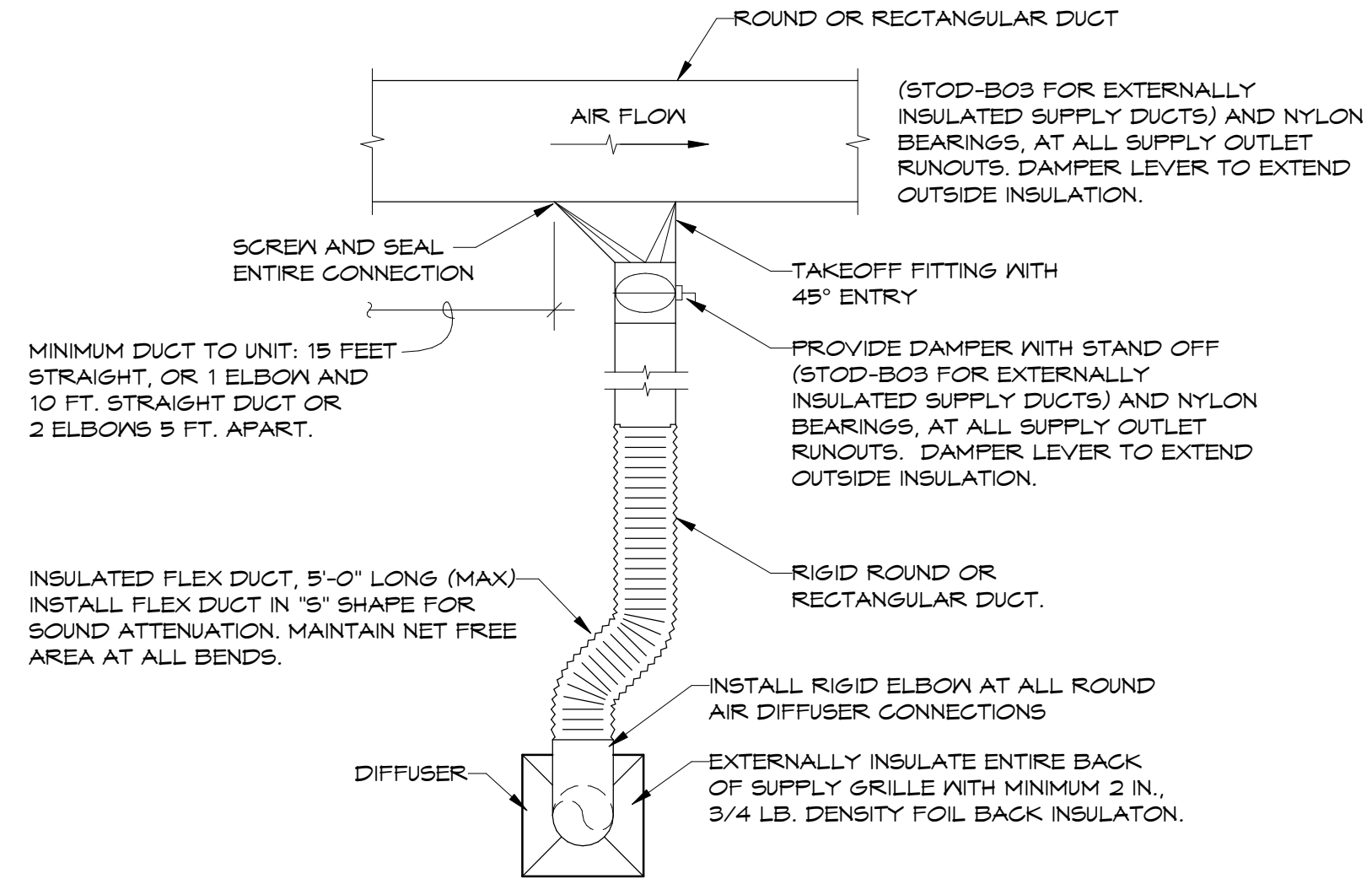
NOTE:
COORDINATE ALL DUCTWORK AND
CEILING DIFFUSER WITH BUILDING
STRUCTURE AND LIGHT FIXTURES.



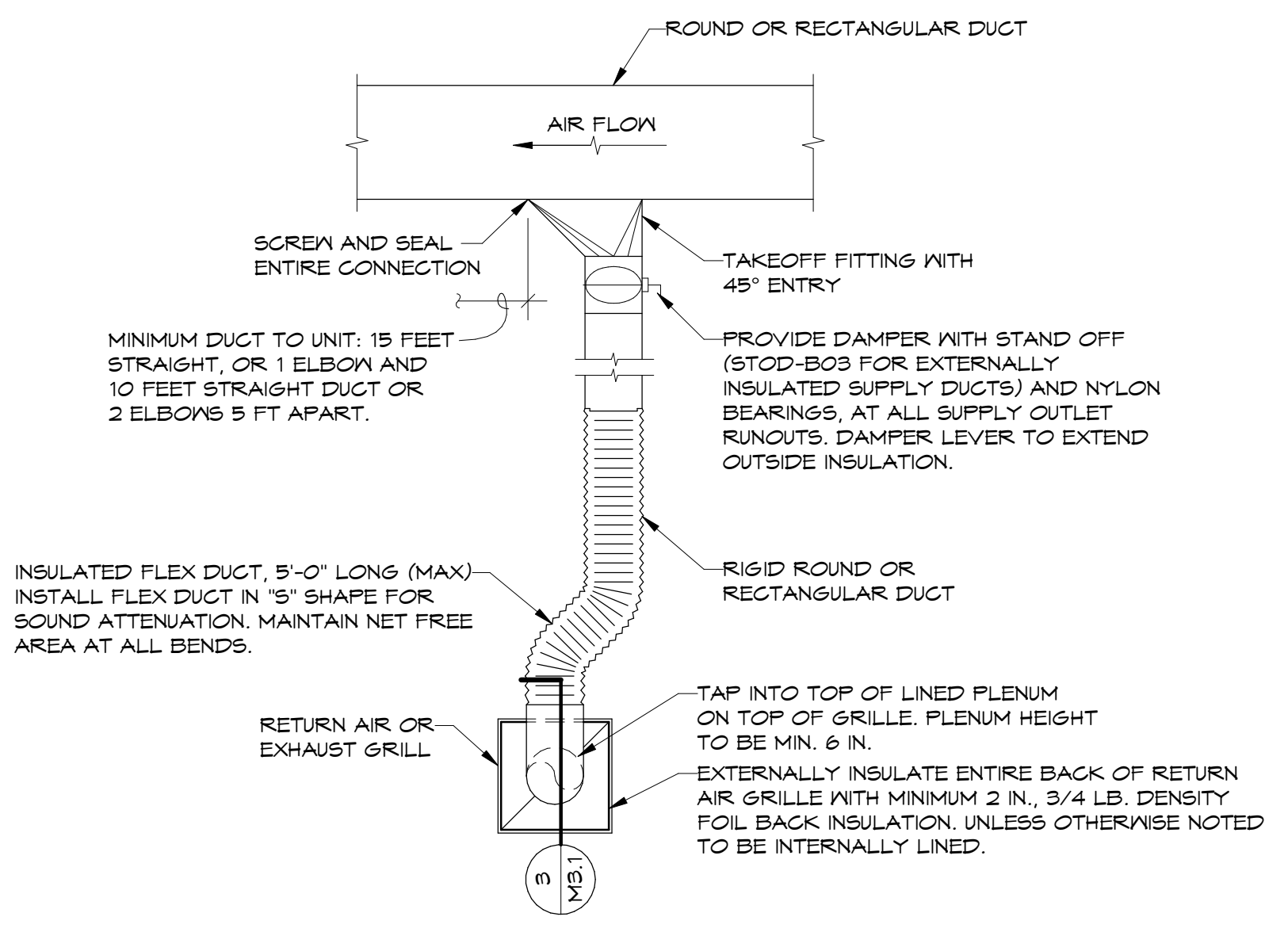
1 HVAC PLAN
1/8" = 1'-0"

NOTES:
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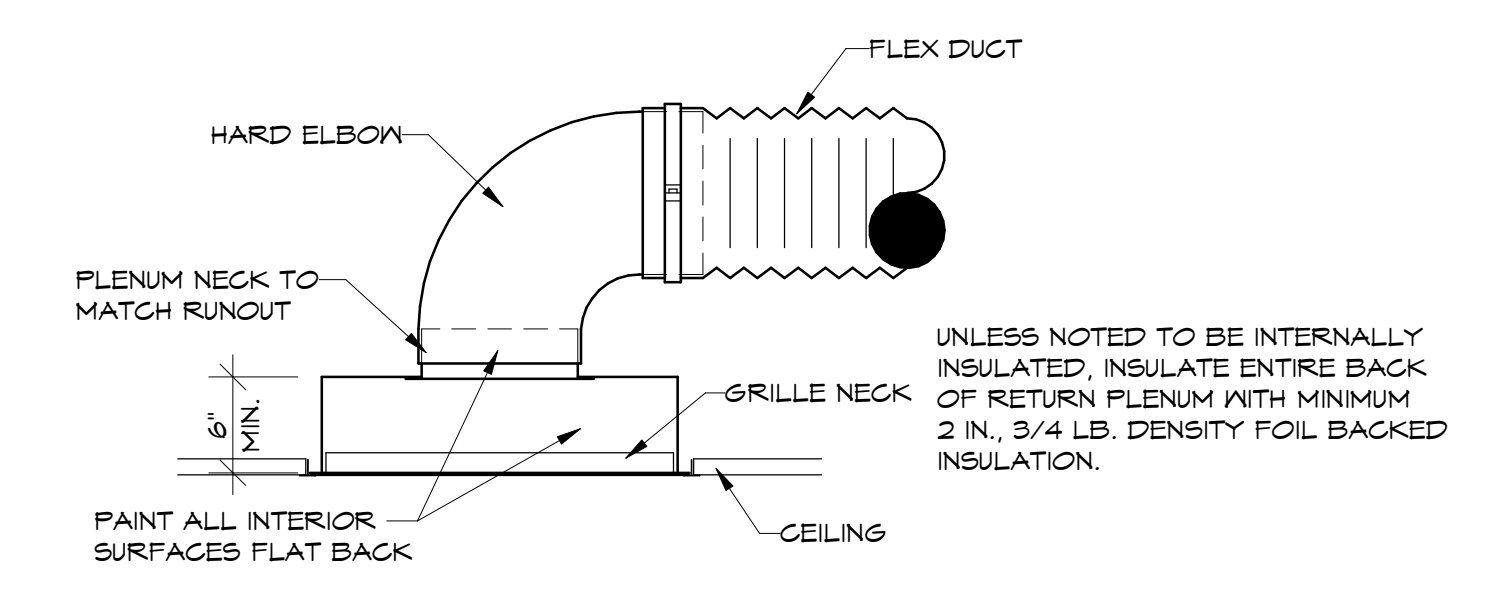
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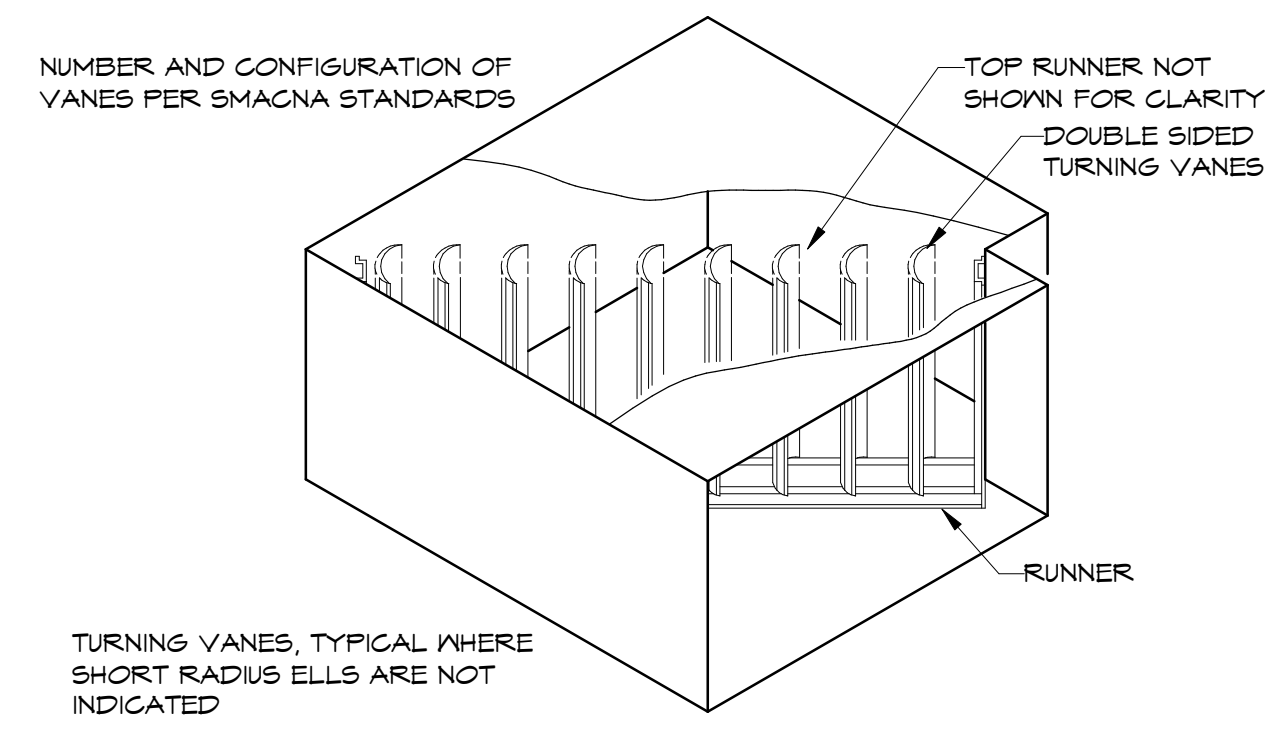
1 SUPPLY DUCT CONNECTION DETAIL
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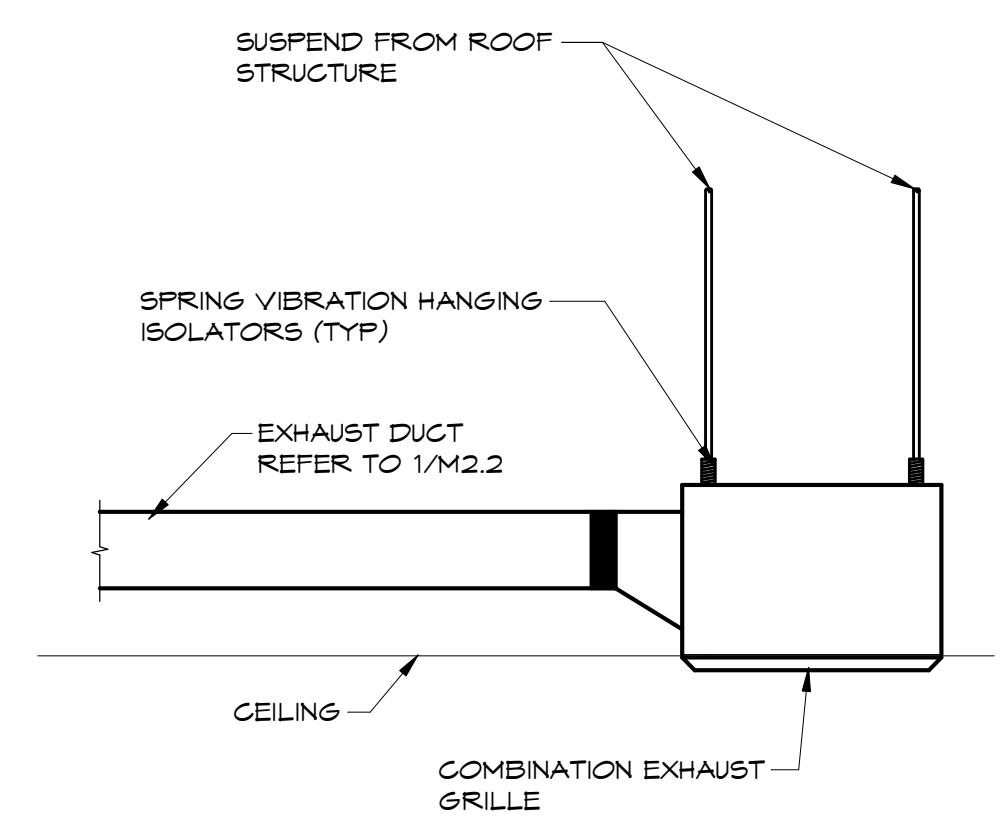
2 RETURN DUCT CONNECTION DETAIL
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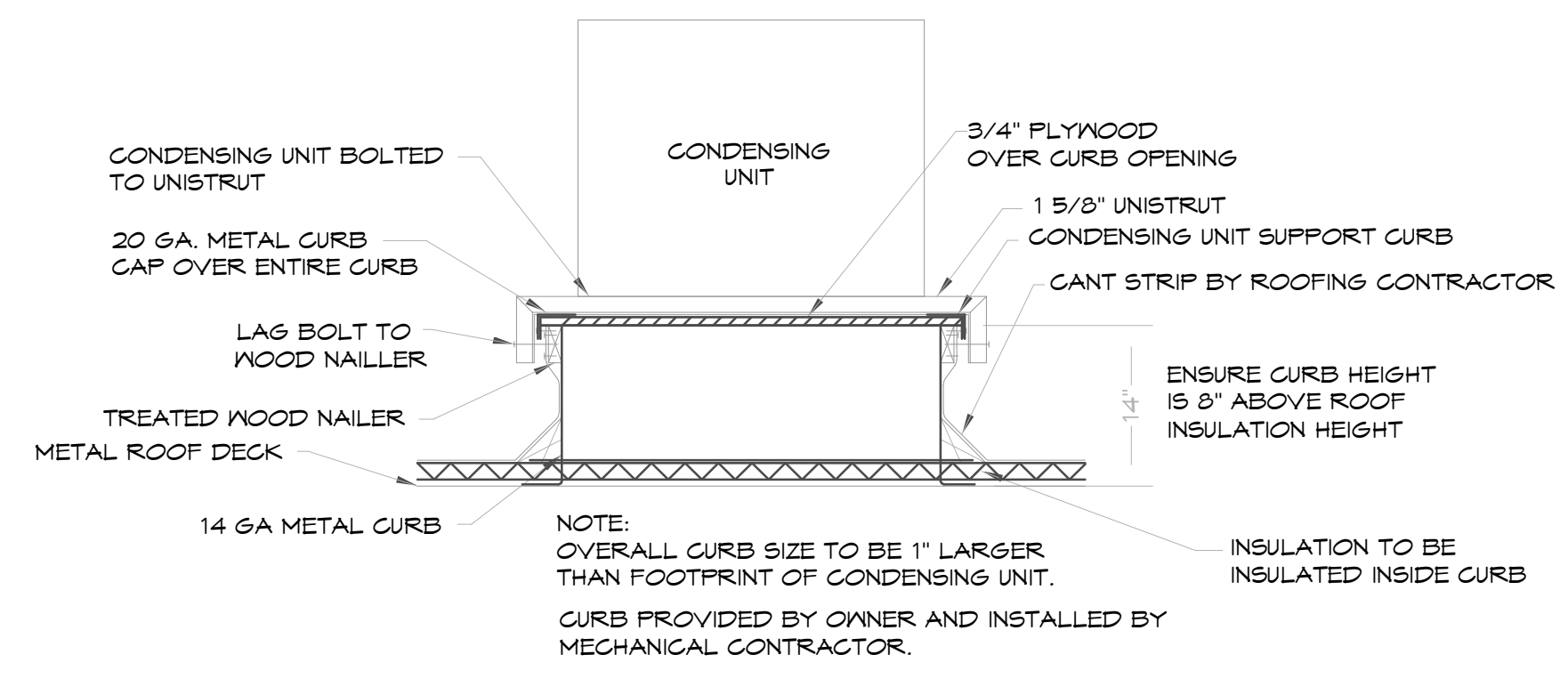
3 RETURN GRILLE CONNECTION SECTION
 NTS



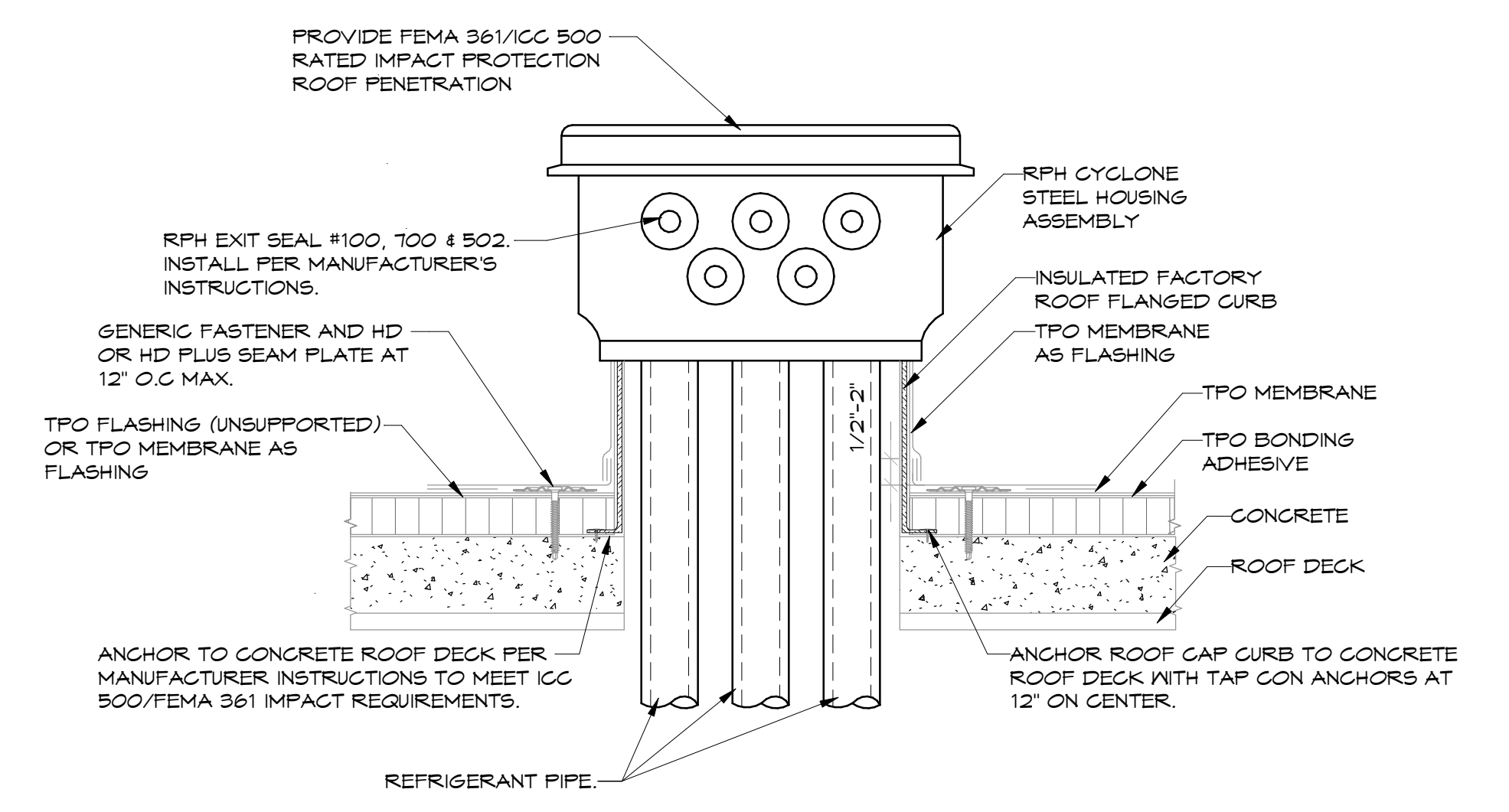
4 TURNING VANE DETAIL
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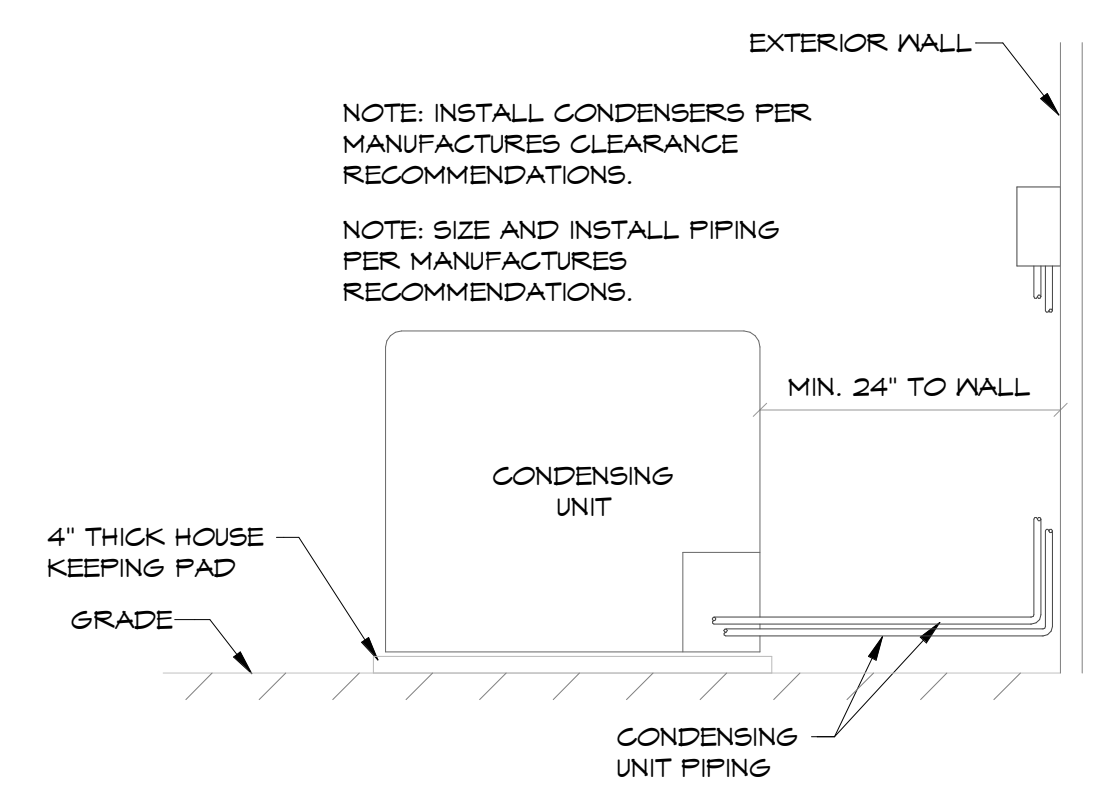
5 CEILING MOUNTED EXHAUST FAN DETAIL
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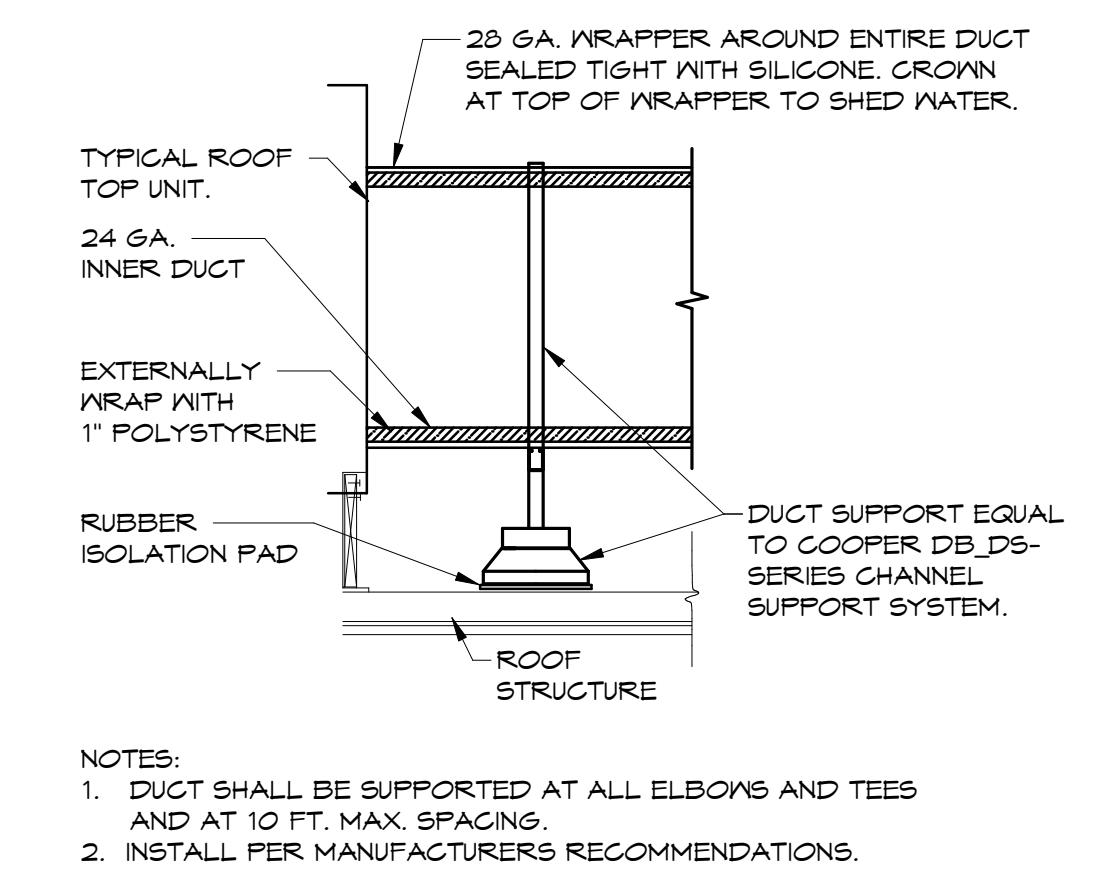
6 CONDENSING UNIT SUPPORT CURB DETAIL
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7 FEMA/ICC 500 RATED ROOF PENETRATION DETAIL
 NTS



8 CONDENSING UNIT DETAIL
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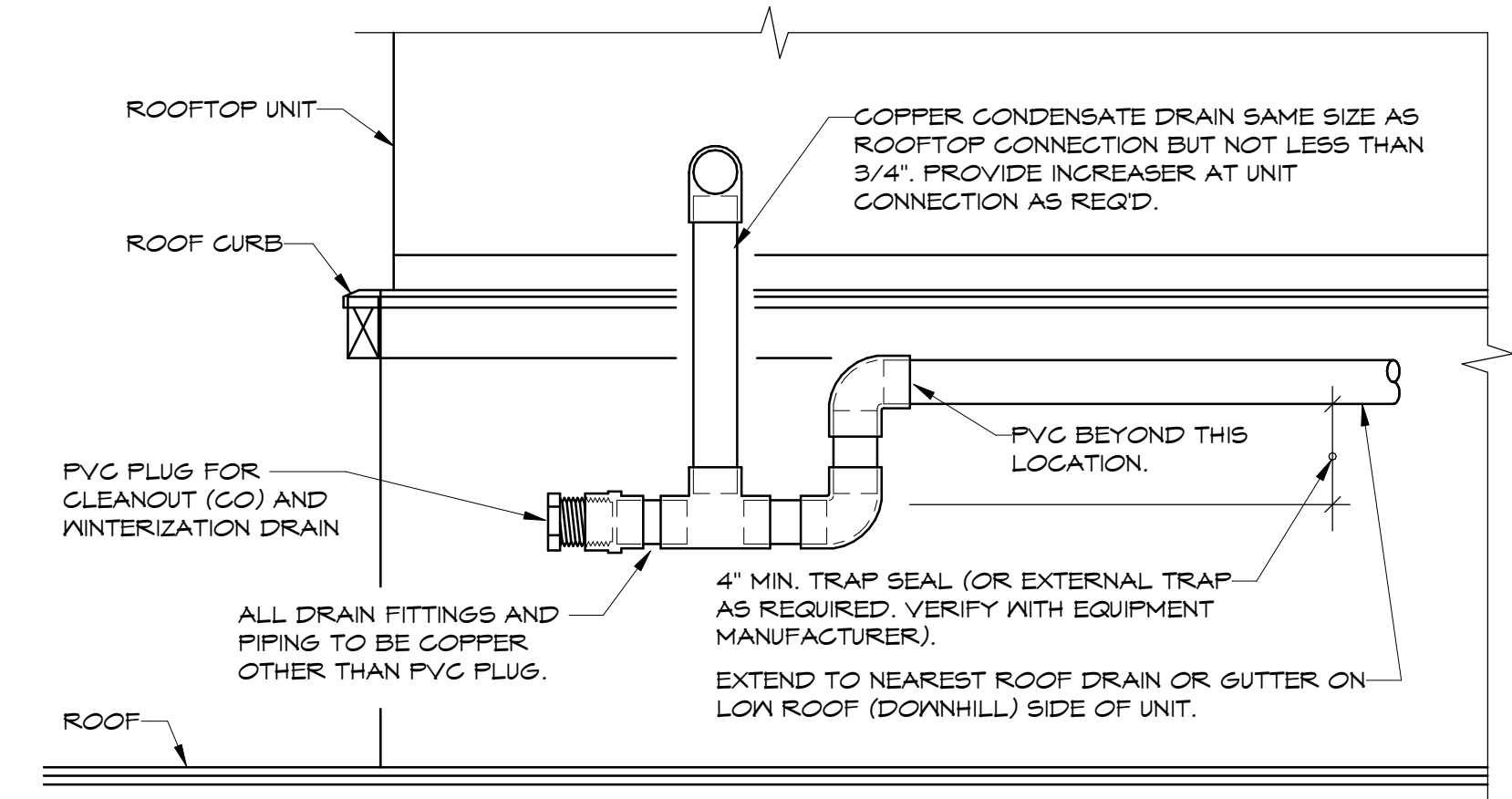


9 EXTERIOR DUCT SUPPORT DETAIL
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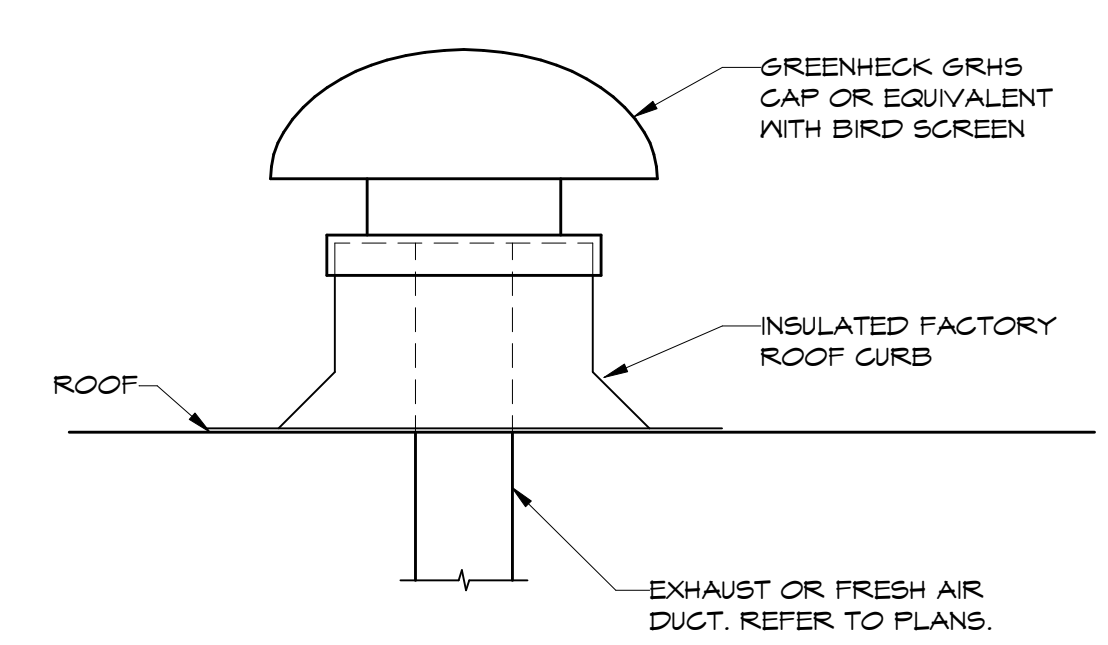
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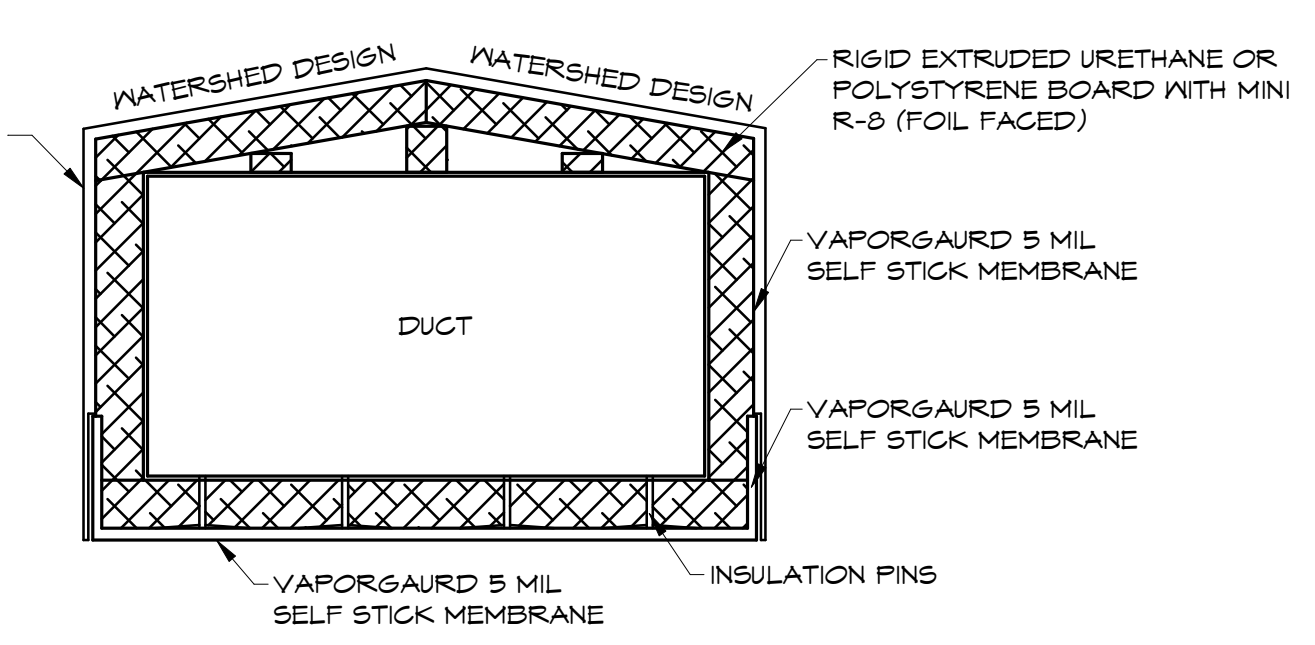
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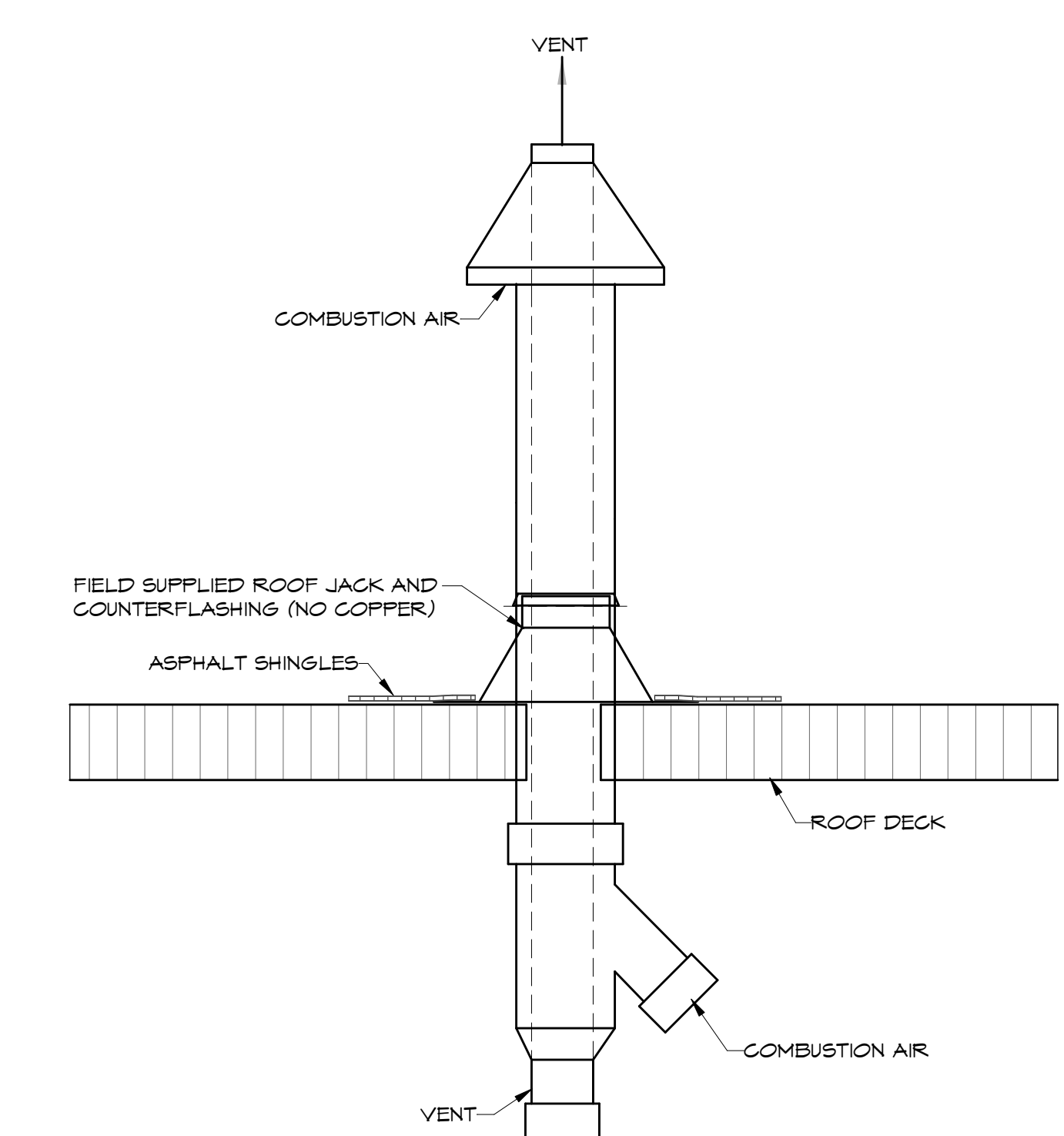
3 ROOFTOP UNIT 1" OR LARGER CONDENSATE DETAIL
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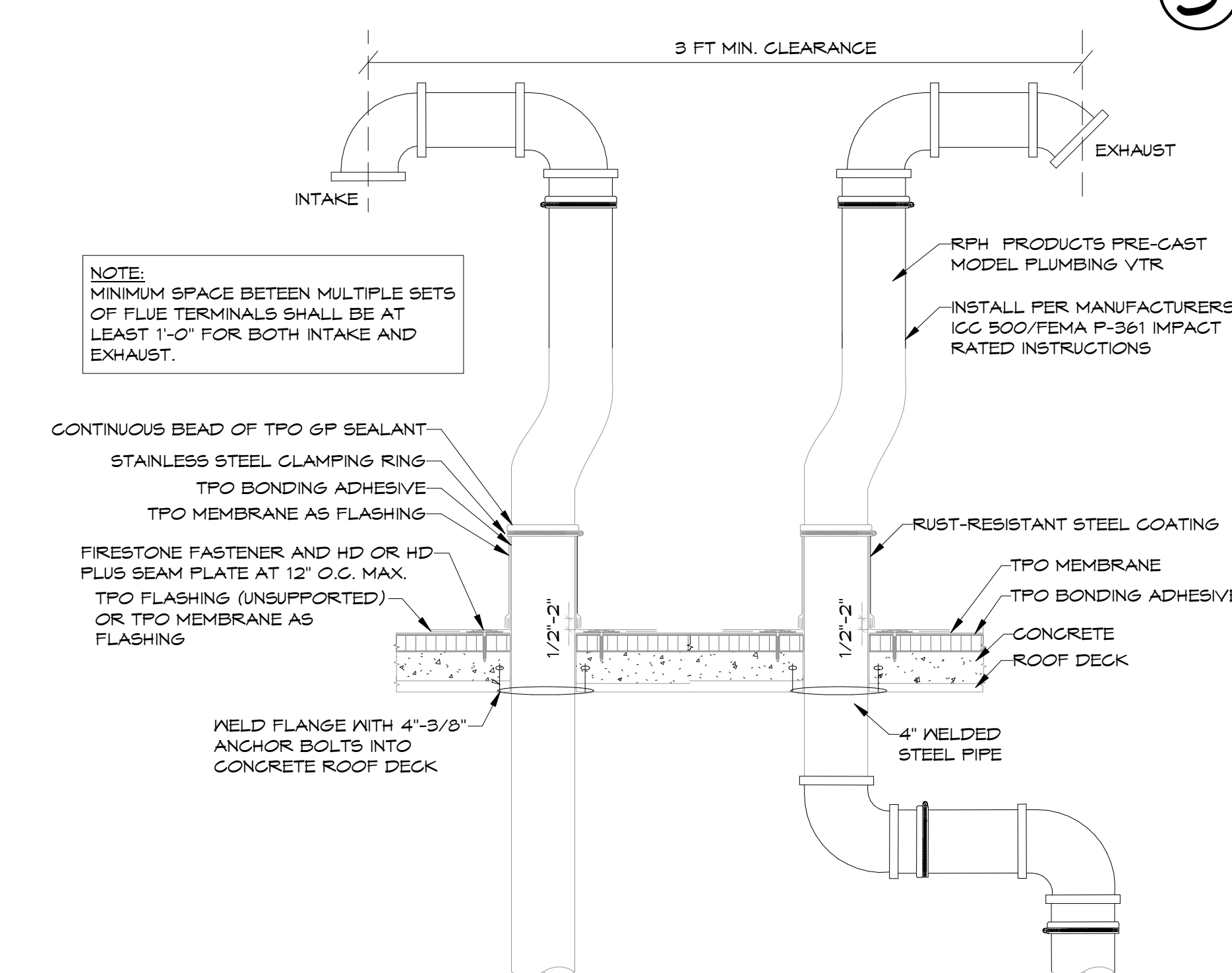
2 ROOF CAP DETAIL
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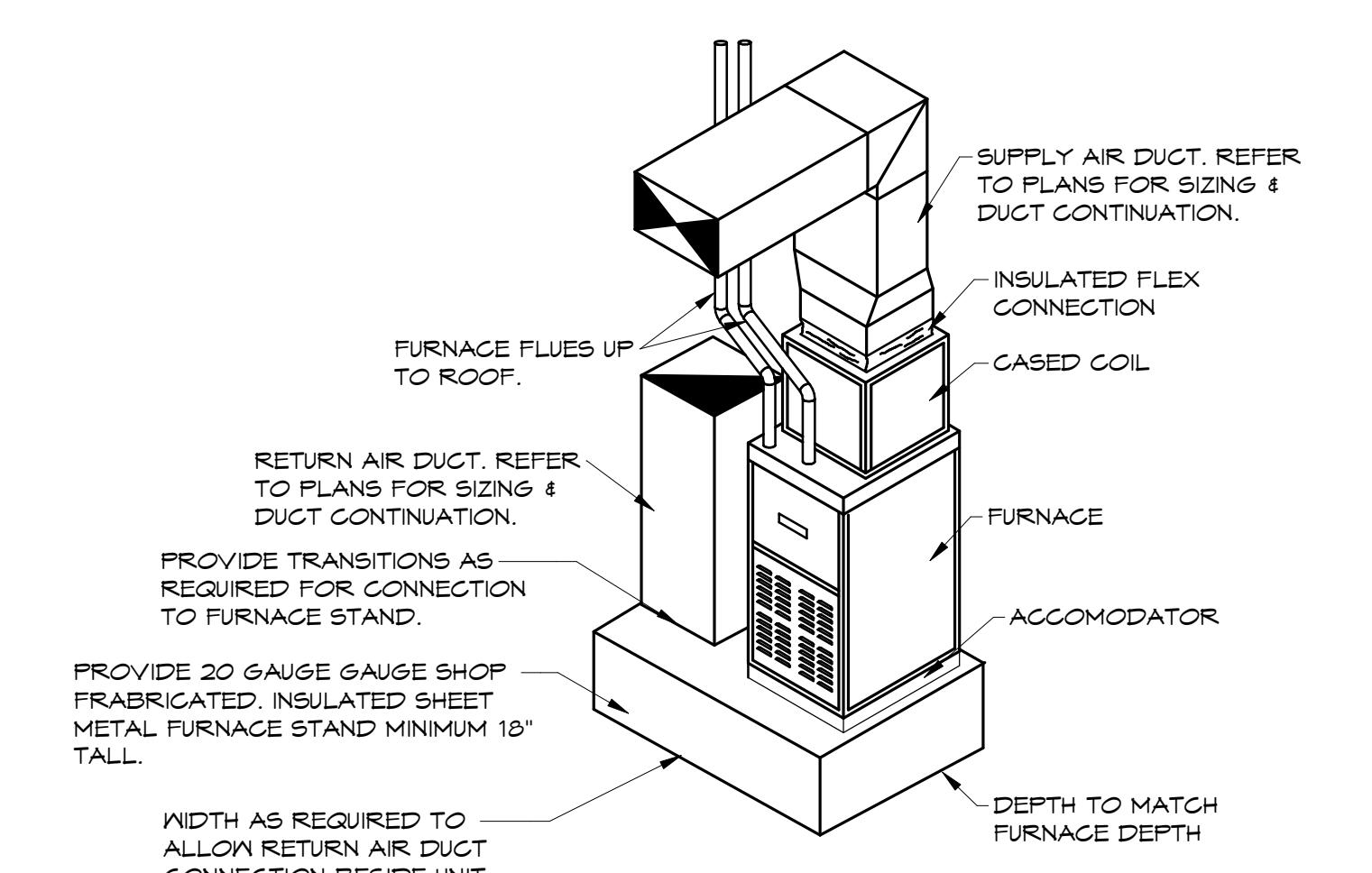
1 EXTERIOR DUCT INSULATION DETAIL
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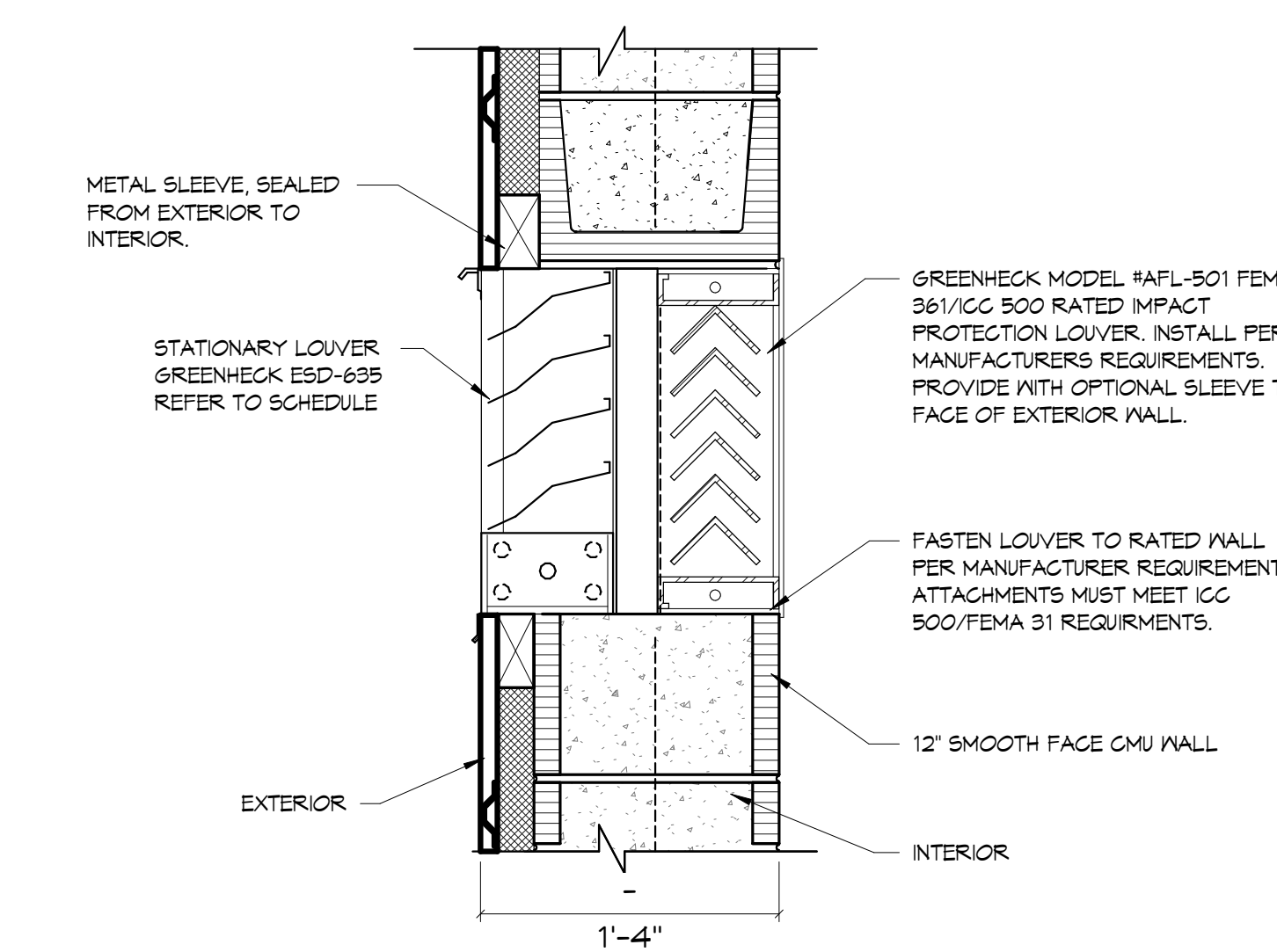
6 FURNACE CONCENTRIC VENT DETAIL
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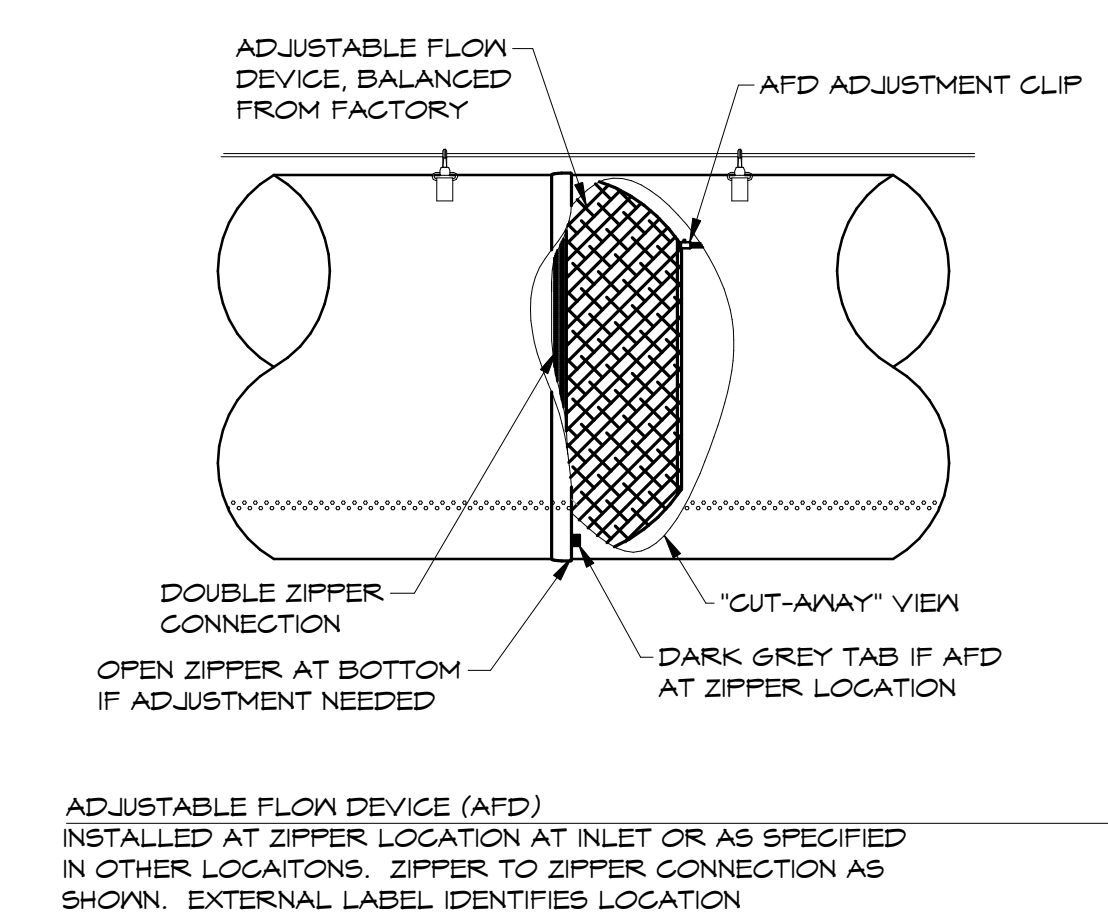
5 FEMA/ICC RATED FURNACE FLUE VENT DETAIL
NTS



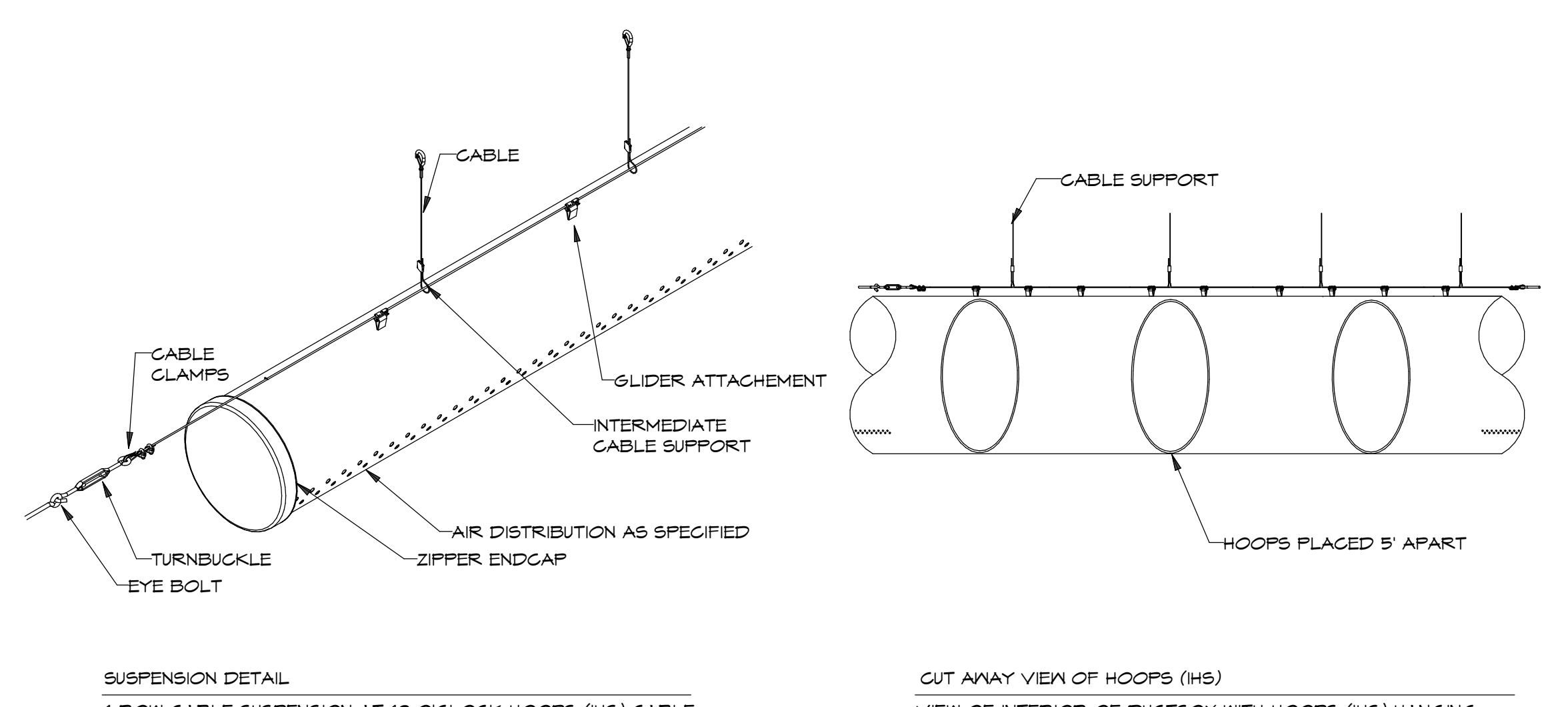
4 FURNACE INSTALLATION STAND DETAIL
N.T.S.



9 FEMA LOUVER DETAIL
NTS



8 DUCT SOX-AFD
NTS



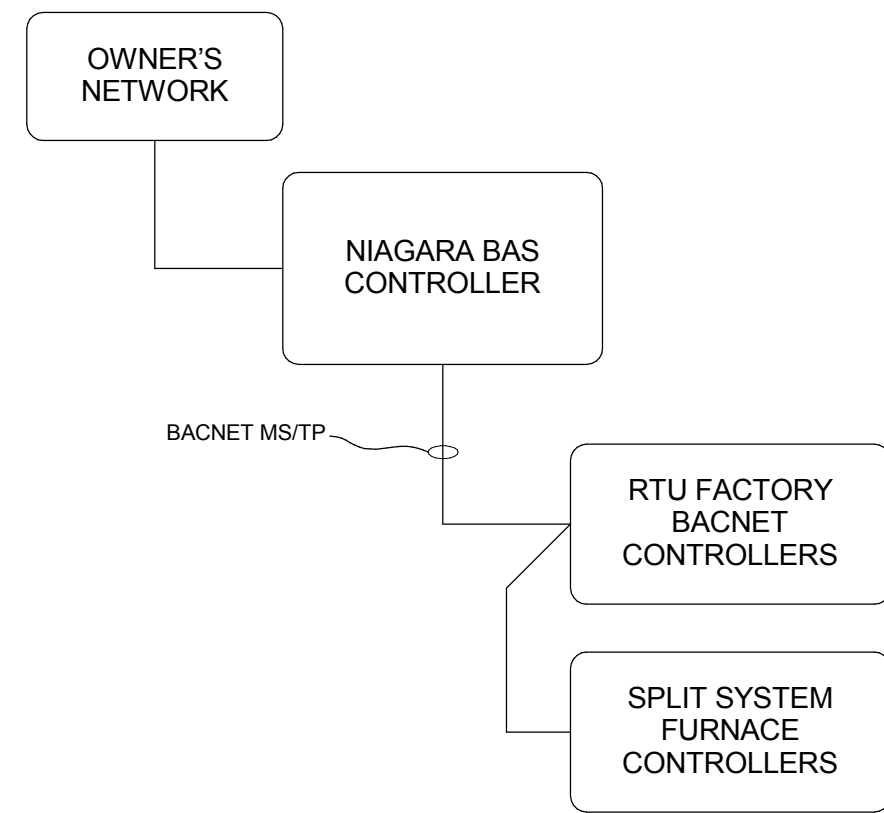
7 FABRIC DUCT SUSPENSION DETAIL
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NOTES:
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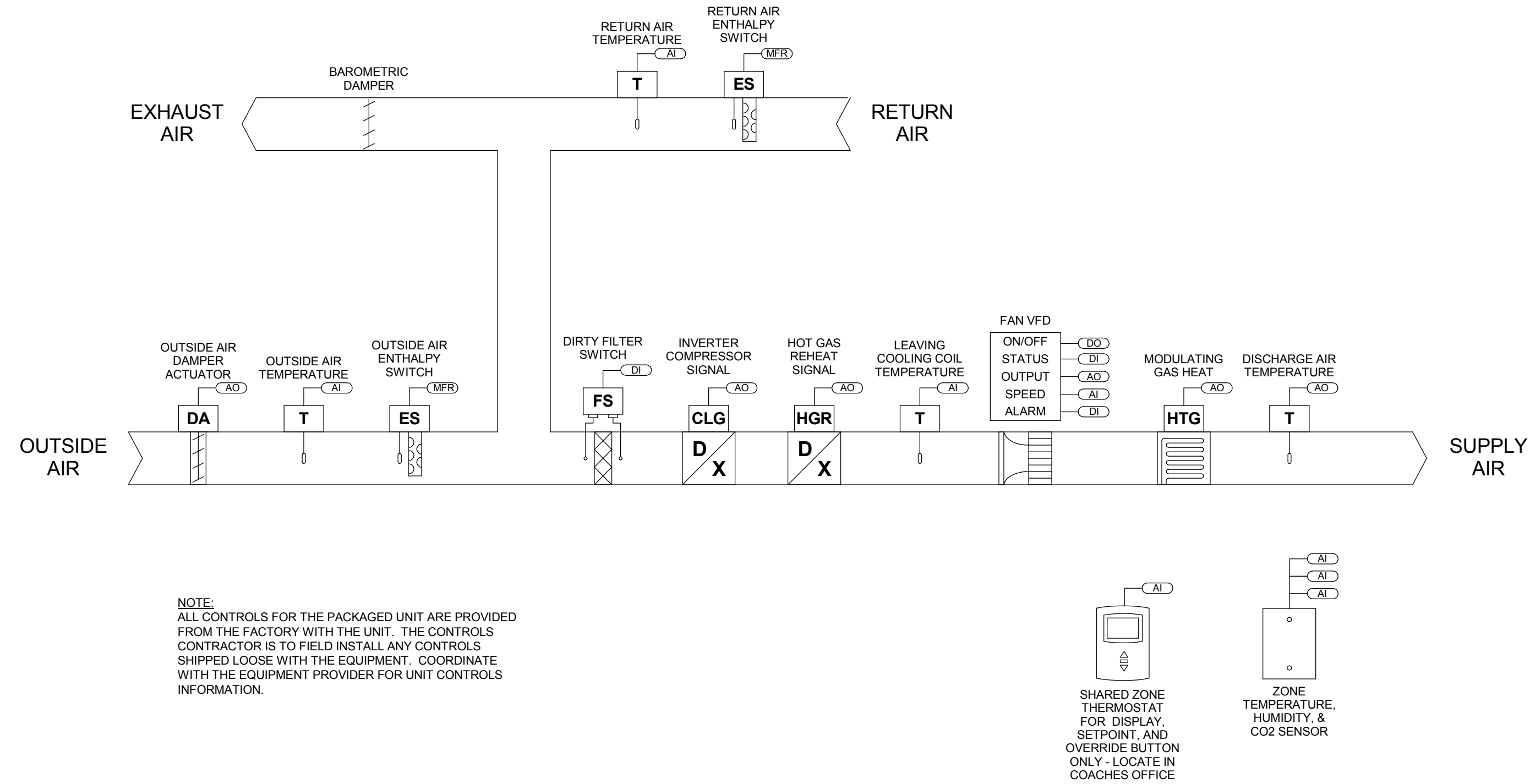


GENERAL NOTES

- HIGH VOLTAGE POWER TO THE NETWORK DDC CONTROLLER IS BY THE DIVISION 26 ELECTRICAL CONTRACTOR. CONTROLS CONTRACTOR TO PROVIDE LOW VOLTAGE POWER AS REQUIRED TO POWER CONTROL DEVICES.
- CONTROLLERS SHOWN IN THE BAS NETWORK RISER DIAGRAM ARE SHOWN FOR SYSTEM INFORMATION ONLY. ALL CONTROLLERS ARE TO BE INSTALLED INSIDE ENCLOSURES APPROPRIATE FOR THEIR ENVIRONMENT. FINAL BACNET COMMUNICATION WIRING TO BE FIELD DETERMINED IN THE MOST EFFICIENT AND NEAT MANNER POSSIBLE.



1 BUILDING AUTOMATION NETWORK
NTS



NOTE:
 ALL CONTROLS FOR THE PACKAGED UNIT ARE PROVIDED FROM THE FACTORY WITH THE UNIT. THE CONTROLS CONTRACTOR IS TO FIELD INSTALL ANY CONTROLS SHIPPED LOOSE WITH THE EQUIPMENT. COORDINATE WITH THE EQUIPMENT PROVIDER FOR UNIT CONTROLS INFORMATION.

SINGLE ZONE PACKAGED UNIT WITH DEHUMIDIFICATION & DEMAND CONTROLLED VENTILATION SEQUENCE OF OPERATION

MODE OF OPERATION:
 THE UNIT MODE OF OPERATION SHALL BE OCCUPIED OR UNOCCUPIED BASED ON A BUILDING AUTOMATION SYSTEM (BAS) SCHEDULE, AN OPERATOR OVERRIDE COMMAND FROM THE BAS, OR A TEMPORARY OCCUPANCY OVERRIDE SIGNAL FROM THE SPACE THERMOSTAT. THE THERMOSTAT USED FOR SETPOINT CONTROL SHALL BE INSTALLED IN THE COACHES OFFICE AND SHARED FOR BOTH RTU'S SERVING THE GYM. EACH RTU SHALL CONTROL TO ITS RESPECTIVE TEMPHUMIDITYCO2 SENSOR LOCATED IN THE SPACE.

OCCUPIED MODE:
 THE SUPPLY FAN SHALL OPERATE CONTINUOUSLY FOR VENTILATION. THE SUPPLY FAN SHALL OPERATE AT A CONSTANT SPEED.

THE SPACE TEMPERATURE SENSOR SHALL BE SET FOR DUAL HEATING AND COOLING SETPOINTS. THE INITIAL OCCUPIED HEATING SETPOINT SHALL BE 70°F (ADJ). THE INITIAL OCCUPIED COOLING SETPOINT SHALL BE 72°F (ADJ). THE SPACE TEMPERATURE SETPOINT RANGE SHALL BE LIMITED BETWEEN A MINIMUM OF 68°F AND MAXIMUM OF 75°F.

THE MINIMUM OUTSIDE AIR DAMPER POSITION SHALL BE SET DURING TEST AND BALANCE AT THE POSITION NEEDED TO MAINTAIN THE SCHEDULED OUTSIDE AIRFLOW RATE. IF ZONE CO2 LEVELS RISE ABOVE 1200 PPM (ADJ) THE OUTSIDE AIR DAMPER SHALL BE ADJUSTED FURTHER OPEN UNTIL THE CO2 LEVEL HAS FALLEN BELOW 1000 PPM (ADJ) THE OUTSIDE AIR DAMPER SHALL THEN RETURN TO ITS MINIMUM POSITION.

ECONOMIZER OPERATION SHALL BE ENABLED WHENEVER THE OUTDOOR ENTHALPY IS LESS THAN THE RETURN AIR ENTHALPY TO UTILIZE OUTSIDE AIR FOR COOLING. DURING ECONOMIZER OPERATION THE OUTSIDE AIR DAMPER SHALL MODULATE TO MAINTAIN SUPPLY AIR TEMPERATURE AT SET POINT.

IN COOLING MODE, THE COMPRESSORS SHALL BE MODULATED TO MAINTAIN THE SPACE TEMPERATURE AT THE OCCUPIED COOLING SETPOINT.

IN HEATING MODE, THE GAS HEATER WILL MODULATE TO MAINTAIN THE SPACE TEMPERATURE AT THE OCCUPIED HEATING SETPOINT.

DEHUMIDIFICATION WILL BE ACTIVATED WHEN THE SPACE RELATIVE HUMIDITY RISES ABOVE THE DEHUMIDIFICATION SET POINT OF 50% RH (ADJ). IN DEHUMIDIFICATION MODE, THE COMPRESSORS SHALL BE MODULATED TO MAINTAIN THE COOLING COIL DISCHARGE AIR TEMPERATURE AT SETPOINT OF 50°F, AND THE MODULATING HOT GAS REHEAT VALVE SHALL MODULATE AS REQUIRED TO MAINTAIN THE SPACE TEMPERATURE AT THE HEATING SETPOINT.

UNOCCUPIED OPERATION:
 THE SYSTEM SHALL BE SUBJECT TO THE UNOCCUPIED MODE HEATING AND COOLING SETPOINTS. THE INITIAL UNOCCUPIED HEATING SETPOINT SHALL BE 65°F (ADJ). THE INITIAL UNOCCUPIED COOLING SETPOINT SHALL BE 80°F (ADJ).

WHEN THE SPACE UNOCCUPIED COOLING AND HEATING SETPOINTS ARE SATISFIED, THE SUPPLY FAN SHALL BE OFF, THE OUTSIDE AIR DAMPER SHALL BE FULLY CLOSED, THE RETURN AIR DAMPER SHALL BE FULLY OPEN, AND ALL HEATING AND COOLING COMMANDS SHALL BE DISABLED.

WHEN THE SPACE UNOCCUPIED COOLING AND HEATING SETPOINTS ARE NOT SATISFIED, THE UNIT SHALL OPERATE AS DESCRIBED IN THE OCCUPIED MODE WITH THE EXCEPTION THAT THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED.

2 SINGLE ZONE ROOFTOP UNIT WITH HUMIDITY AND DCV CONTROL
NTS

SPLIT SYSTEM FURNACE UNIT SEQUENCE OF OPERATION:

MODE OF OPERATION:
 THE UNIT MODE OF OPERATION SHALL BE EITHER OCCUPIED OR UNOCCUPIED BASED ON A BUILDING AUTOMATION SYSTEM (BAS) SCHEDULE, AN OPERATOR OVERRIDE COMMAND FROM THE BAS, OR A TEMPORARY OCCUPANCY OVERRIDE SIGNAL AT THE THERMOSTAT.

OCCUPIED MODE:
 THE THERMOSTAT SHALL BE SET FOR DUAL HEATING AND COOLING SETPOINTS. THE INITIAL OCCUPIED HEATING SETPOINT SHALL BE 70°F (ADJ). THE INITIAL OCCUPIED COOLING SETPOINT SHALL BE 72°F (ADJ). THE SPACE TEMPERATURE SETPOINT RANGE SHALL BE LIMITED BETWEEN A MINIMUM OF 68°F AND MAXIMUM OF 75°F.

THE OUTSIDE AIR DAMPER SHALL BE OPEN, AND THE SUPPLY FAN SHALL RUN CONTINUOUSLY FOR VENTILATION. THE VENTILATION AIRFLOW RATE SHALL BE SET VIA MANUAL BALANCING DAMPER DURING TEST AND BALANCE.

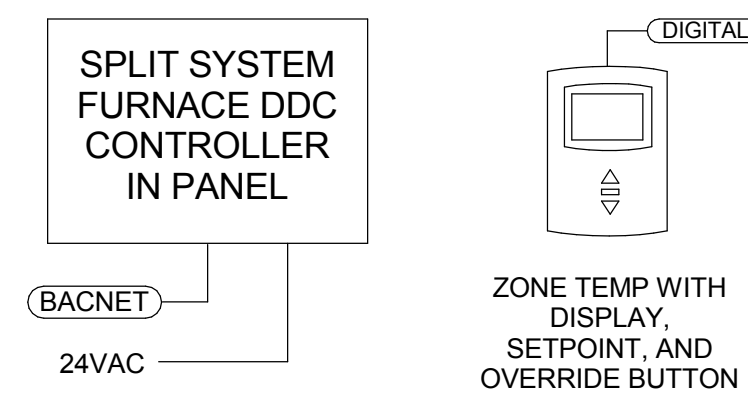
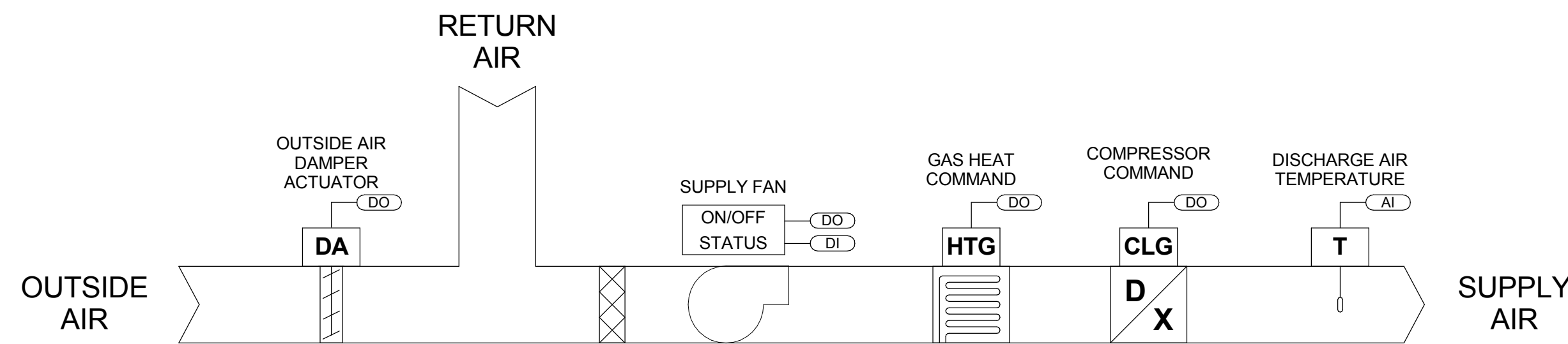
ON AN INCREASE IN SPACE TEMPERATURE ABOVE THE COOLING SETPOINT, THE COMPRESSOR SHALL BE COMMANDED ON UNTIL THE SPACE TEMPERATURE HAS REACHED THE OCCUPIED COOLING SETPOINT.

ON A DECREASE IN SPACE TEMPERATURE BELOW THE HEATING SETPOINT, THE FURNACE SHALL BE COMMANDED ON UNTIL THE SPACE TEMPERATURE HAS REACHED THE OCCUPIED HEATING SETPOINT.

UNOCCUPIED MODE:
 DURING UNOCCUPIED MODE, THE OUTSIDE AIR DAMPER SHALL BE CLOSED AND THE FAN, COMPRESSOR, AND FURNACE SHALL TYPICALLY BE OFF.

THE INITIAL UNOCCUPIED HEATING AND COOLING SETPOINTS SHALL BE 65°F (ADJ) AND 78°F (ADJ). IF THE SPACE TEMPERATURE FALLS BELOW THE UNOCCUPIED HEATING SETPOINT OR RISES ABOVE THE UNOCCUPIED COOLING SETPOINT, THE FAN SHALL BE ALLOWED TO RUN, THE COMPRESSOR SHALL BE COMMANDED ON FOR COOLING AS NEEDED, AND THE FURNACE SHALL BE COMMANDED ON FOR HEATING AS NEEDED. THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED DURING UNOCCUPIED OPERATION.

ONCE THE SPACE TEMPERATURE HAS REACHED THE UNOCCUPIED HEATING OR COOLING SETPOINT, THE FAN, COMPRESSOR, AND FURNACE SHALL BE COMMANDED OFF.



3 SPLIT SYSTEM FURNACE UNIT CONTROL
NTS

NOTES:
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A NEW FACILITY FOR
Thaden Competition Gym
 911 S MAIN ST, Bentonville, AR 72712

DRAWN BY:
DCN
 CHECK BY:
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HVAC SCHEDULES
 S H E E T
M5.1
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EXHAUST FAN SCHEDULE													
MARK	MFG.	MODEL	CFM	ESP. IN		INLET SONES	FAN RPM	ELECTRICAL			UNIT WEIGHT	REMARKS / ACCESSORIES	
				INC	WATTS			VOLT	PH	HZ			
EF-1	GREENHECK	SP-A200	105	0.5	36	3.7	891	115	1	60	32 lb	1, 2, 3, 4, 5	
EF-2	GREENHECK	SP-A200	105	0.5	36	3.7	891	115	1	60	32 lb	1, 2, 3, 4, 5	
EF-3	GREENHECK	SP-A200	105	0.5	36	3.7	891	115	1	60	32 lb	1, 2, 3, 4, 5	
EF-4	GREENHECK	SP-A200	105	0.5	36	3.7	891	115	1	60	32 lb	1, 2, 3, 4, 5	
EF-5	GREENHECK	SP-A200	125	0.5	41	4	862	115	1	60	32 lb	1, 2, 3, 4, 5	
EF-6	GREENHECK	SP-A200	125	0.5	41	4	862	115	1	60	32 lb	1, 2, 3, 4, 5	
EF-7	GREENHECK	SP-A200	125	0.5	41	4	862	115	1	60	32 lb	1, 2, 3, 4, 5	
EF-8	GREENHECK	SP-A200	125	0.5	41	4	862	115	1	60	32 lb	1, 2, 3, 4, 5	
EF-9	GREENHECK	SP-A200	125	0.5	41	4	862	115	1	60	32 lb	1, 2, 3, 4, 5	
EF-10	GREENHECK	SP-A200	125	0.5	41	4	862	115	1	60	32 lb	1, 2, 3, 4, 5	
EF-11	GREENHECK	SP-A200	85	0.5	41	4	862	115	1	60	32 lb	1, 2, 3, 4, 5	
EF-12	GREENHECK	SP-A200	75	0.5	41	4	862	115	1	60	32 lb	1, 2, 3, 4, 5	
EF-13	GREENHECK	SP-A180	525	0.5	348	6.5	1345	115	1	60	34 lb	1, 2, 3, 4, 5	
EF-14	GREENHECK	SP-A110	375	0.5	295	6	1025	115	1	60	32 lb	1, 2, 3, 4, 5	
EF-15	GREENHECK	SP-A200	125	0.5	41	4	862	115	1	60	32 lb	1, 2, 3, 4, 5	
EF-16	GREENHECK	SP-A180	650	0.5	348	9.2	1588	115	1	60	34 lb	1, 2, 4, 5, 6	

- REMARKS/ACCESSORIES
- PROVIDE FACTORY BACK DRAFT DAMPER.
 - PROVIDE DIRECT DRIVE MOTOR WITH FAN SPEED CONTROLLER.
 - INTERLOCK EXHAUST FAN WITH LIGHT SWITCH BY ELECTRICAL CONTRACTOR.
 - PROVIDE FACTORY CEILING HUNG VIBRATION ISOLATORS.
 - PROVIDE STANDARD GRILLE CONSTRUCTION.
 - PROVIDE LINE VOLTAGE THERMOSTAT.

AIR DISTRIBUTION SCHEDULE								
MARK	CFM	NECK SIZE	MFG.	MODEL	TYPE	FINISH	FRAME	REMARKS / ACCESSORIES
A	50-100	8"Ø	TITUS	TMS	4-WAY SUPPLY	WHITE	T-BAR LAY-IN	1, 3, 4
B	50-100	8"Ø	TITUS	TMS	4-WAY SUPPLY	WHITE	T-BAR LAY-IN	1
C	105-200	8"Ø	TITUS	TMS	4-WAY SUPPLY	WHITE	T-BAR LAY-IN	1, 4
D	225-300	10"Ø	TITUS	TMS	4-WAY SUPPLY	WHITE	T-BAR LAY-IN	1, 4
E	200-1200	22" X 22"	TITUS	355RL	RETURN	WHITE	T-BAR LAY-IN	1, 2, 4
F	8310	72" X 48"	TITUS	355RL	SIDEWALL RETURN	WHITE	SURFACE	1, 5
G	1000-1600	46" X 22"	TITUS	355RL	RETURN	WHITE	T-BAR LAY-IN	1, 2
H	650	32" X 8"	TITUS	355RL	WALL TRANSFER	WHITE	SURFACE	1, 5

- REMARKS/ACCESSORIES
- STEEL CONSTRUCTION.
 - NO SCREEN HOLES.
 - 12" X 12" MODEL.
 - PROVIDE TITUS MODEL TRM RAPID FRAME IN AREAS OF GYP BOARD CEILING.
 - PROVIDE CONTERSUNK SCREEN HOLES.

ELECTRIC WALL HEATER SCHEDULE						
MARK	MFG.	MODEL	HEATING		VOLT / PH / HZ	ACCESSORIES
			INPUT WATTS	FUEL TYPE		
WH-1	MARKEL	F3423	3000	ELECTRIC	208 / 1 / 60	1, 2, 3
WH-2	MARKEL	F3423	3000	ELECTRIC	208 / 1 / 60	1, 2, 3

- REMARKS/ACCESSORIES
- PROVIDE WITH BUILT-IN TAMPER-PROOF THERMOSTAT.
 - PROVIDE HARDWARE FOR SURFACE MOUNTING. MOUNT 12" ABOVE FINISHED FLOOR.
 - PROVIDE FACTORY CIRCUIT BARKER.

AIR CONDITIONER SCHEDULE														
MARK	MFG	UNIT MODEL NUMBERS		MOUNTING STYLE	TON(S)	CFM (LO-M1-M2-HI)	COOLING		ELECTRICAL (SINGLE POINT CONNECTION)			ACCESSORIES		
		OUTDOOR	INDOOR				TMBH	SMBH	OUTDOOR	INDOOR	M.C.A.		M.O.P.	VOLT / PH / HZ
AC-1	DAIKIN	RKF18AXVJU	FTKF18AXVJU	WALL	1-1/2 TON	365-750	18	14.12	105	35	14.2	20	208-230 / 1 / 60	1, 2, 3

- REMARKS/ACCESSORIES
- PROVIDE WIRELESS REMOTE UNIT.
 - PROVIDE FACTORY WALL MOUNTING HARDWARE. INSTALL 8'-0" A.F.F. IN LOCATION INDICATED ON PLANS.
 - PROVIDE WITH LOW AMBIENT KIT TO 0°F

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ROOF TOP UNIT SCHEDULE																				
MARK	MFG	MODEL	COOLING				HETATING			FAN MOTOR HP	M.C.A.	M.O.P.	VOLT/PH/HZ	WEIGHTS			REMARKS/ACCESSORIES			
			NOM. TONS	TMBH	SMBH	EER	CFM	ESP IN. WG	INPUT (MBH)					OUTPUT (MBH)	AFUE %	OUTSIDE AIR (CFM)		CURB (lbs)	UNIT (lbs)	TOTAL (lbs)
RTU-1	DAIKIN	DP6C31	31	370.0	318.9	10	11150	0.5	600	486	80	2840	10	85.4	110	460 / 3 / 60	1300	3415	5215	1, 2, 3, 4, 5, 6, 7, 8, 9
RTU-2	DAIKIN	DP6C31	31	370.0	318.9	10	11150	0.5	600	486	80	2840	10	85.4	110	460 / 3 / 60	1300	3415	5215	1, 2, 3, 4, 5, 6, 7, 8, 9

- REMARKS/ACCESSORIES
- PROVIDE FACTORY INSTALLED BAGNET CONTROLLER TO CONNECT TO BAS.
 - PROVIDE 2" MERV 8 PLEATED MEDIA FILTER.
 - PROVIDE FACTORY HOT GAS REHEAT.
 - PROVIDE FACTORY CONDENSER COIL HAIL GUARDS.
 - PROVIDE HINGED ACCESS DOORS.
 - PROVIDE 18" BASE ROOF CURB WITH INTEGRAL SPRING ISOLATION TO MATCH ROOF PITCH.
 - PROVIDE 100% ECONOMIZER WITH DUAL ENTHALPY CONTROL.
 - PROVIDE NON-FUSED DISCONNECT SWITCH AND NON-POWERED CONVENIENCE OUTLET.
 - PROVIDE UNIT WITH GPS NEEDLEPOINT BIPOLAR IONIZATION SYSTEM. PROVIDE MULTIPLE UNITS AS REQUIRED FOR UNIT AIRFLOW.

FURNACE SCHEDULE											
MARK	MFG.	MODEL	ESP IN. WG	CFM	HEATING			OUTSIDE AIR (CFM)	FAN MOTOR HP	VOLT/PH/HZ	REMARKS / ACCESSORIES
					INPUT (MBH)	OUTPUT (MBH)	FUEL TYPE				
F-1	DAIKIN	DR96SN0603BNA	0.7	1200	60	55	GAS	240	0.5	115 / 1 / 60	1, 2, 4, 5, 6, 7, 8, 10, 11, 12
F-2	DAIKIN	DR96SN0603BNA	0.7	1200	60	55	GAS	240	0.5	115 / 1 / 60	1, 2, 4, 5, 6, 7, 8, 10, 11, 12
F-3	DAIKIN	DR96SN1202DNA	0.7	2000	120	115	GAS	300	1	115 / 1 / 60	1, 2, 3, 4, 5, 6, 7, 9, 10, 11

- REMARKS/ACCESSORIES
- 96% MIN. AFUE UPFLOW GAS FURNACE.
 - ELECTRONIC SPARK IGNITION.
 - PROVIDE FACTORY VERTICAL CONCENTRIC VENT TERMINATION KITS REFER TO 6/M3.2 FOR DETAIL.
 - 10 YEAR MIN. NON-PRORATED HEAT EXCHANGER.
 - VERTICAL FURNACE.
 - PROVIDE 2" FARR 30/30 MERV 8 FILTERS.
 - PROVIDE FILTER HOUSING EQUAL TO MCDANIEL METALS "ACCOMODATOR" FILTER RACK SHALL ACCEPT 2" THICK FILTERS.
 - PROVIDE CATA42303A MULTI-POSITION CASED "A" TYPE COIL WITH TXV REFRIGERANT CONTROL.
 - PROVIDE CATA60303A MULTI-POSITION CASED "A" TYPE COIL WITH TXV REFRIGERANT CONTROL.
 - PROVIDE 1 INDIVIDUAL DAY PROGRAMMABLE THERMOSTAT.
 - PROVIDE UNIT WITH GPS NEEDLEPOINT BIPOLAR IONIZATION SYSTEM.
 - PROVIDE FACTORY VERTICAL CONCENTRIC VENT TERMINATION KITS REFER TO 5/M3.2 FOR DETAIL.

CONDENSER SCHEDULE								
MARK	MFG.	MODEL	TMBH	SMBH	MCA	MOP	VOLT/PH/HZ	REMARKS / ACCESSORIES
CU-1	DAIKIN	DG35EA3640A	34.2	27.3	6.7	10	460 / 3 / 60	1, 2, 3, 4, 5, 6
CU-2	DAIKIN	DG35EA3640A	34.2	27.3	6.7	10	460 / 3 / 60	1, 2, 3, 4, 5, 6
CU-3	DAIKIN	DG35EA6030A	55.0	44.0	20	35	208 / 3 / 60	1, 2, 3, 4, 5, 6

- REMARKS/ACCESSORIES
- MINIMUM 13.4 SEER-2 CONDENSER.
 - PROVIDE LOW AMBIENT TO 0° F CONTROL WITH TXV AND CRANK CASE HEATERS.
 - PROVIDE LIQUID LINE FILTER DRYER.
 - PROVIDE FACTORY HAIL GUARD.
 - SIZE AND INSTALL REFRIGERANT LINES PER MANUFACTURERS RECOMMENDATIONS.
 - PROVIDE WITH R32 REFRIGERANT.

LOUVER SCHEDULE									
MARK	CFM	NECK SIZE	MFG	MODEL	TYPE	FINISH	FRAME	ACCESSORIES	
EL-1	745	16" X 16"	GREENHECK	ESD-635	EXHAUST LOUVER	BAKED ENAMEL	FLANGED	1, 2, 3, 5, 6, 7	
EL-2	1235	32" X 16"	GREENHECK	ESD-635	EXHAUST LOUVER	BAKED ENAMEL	FLANGED	1, 2, 3, 5, 6, 7	
IL-1	480	16" X 16"	GREENHECK	ESD-635	INTAKE LOUVER	BAKED ENAMEL	FLANGED	1, 2, 3, 4, 5, 6, 7	

- REMARKS/ACCESSORIES
- ALUMINUM CONSTRUCTION.
 - PROVIDE STEEL BIRD SCREEN.
 - PROVIDE FACTORY SIGHT-PROOF, STATIONARY, DRAINABLE LOUVER.
 - PROVIDE SQUARE TO ROUND CONNECTION.
 - PROVIDE WITH AFL-501 FEMA LOUVER, TO BE MOUNTED BEHIND SCHEDULES LOUVER.
 - MAXIMUM COMBINED PRESSURE DROP SHALL NOT EXCEED 0.12 ESP.
 - PROVIDE FACTORY APPLIED CUSTOM COLOR FINISH ARCHITECT TO PROVIDE CUSTOM COLOR SELECTION.