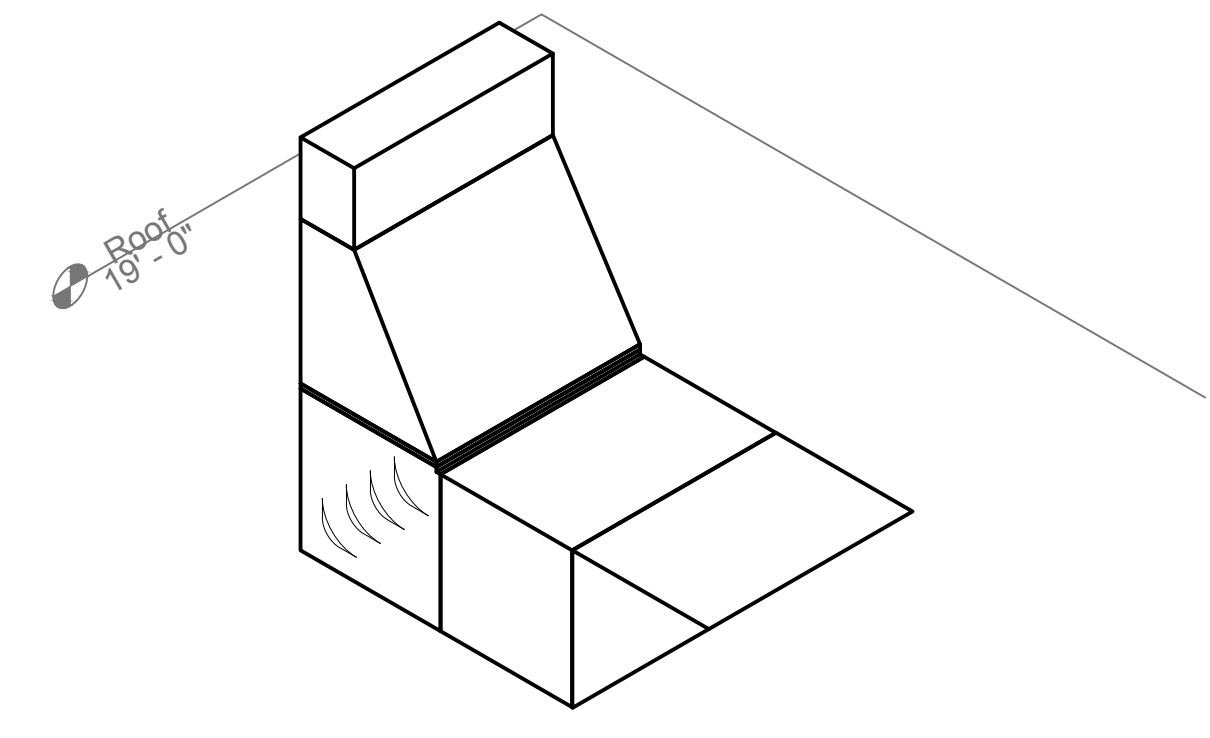


MECHANICAL FLOOR PLAN - LEVEL 1
SCALE: 1/8"=1'-0"

MECHANICAL NEW WORK KEY NOTES	
1	NEW CEILING MOUNTED DX SPLIT (CASSETTE) INDOOR UNIT, AC-1, SIZE REFRIGERANT LINES PER MANUFACTURER RECOMMENDATIONS AND EXTEND TO CONDENSING UNIT CURB ON ROOF IN A NEATLY ORGANIZED MANNER. REFER TO ARCHITECTURAL & STRUCTURAL DRAWINGS FOR UNITS HANGING SUPPORTS REQUIREMENT AND DETAILS. CONTRACTOR SHALL REVIEW AND FOLLOW THE MANUFACTURER INSTALLATION INSTRUCTIONS. PROVIDE P-TRAP WITH OVERFLOW SWITCH FOR UNIT SHUT DOWN FOR CONDENSATE PROVISIONS REFER TO PLUMBING DRAWINGS. COORDINATE EXACT LOCATION OF AC-1 WITH ALL TRADES.
2	ALL SUPPLY DUCTWORK (EXPOSED) IN WORKROOM AREA SHALL BE DOUBLE WALL CONSTRUCTION CASKETING AND PAINTED TO COLOR SELECTED BY ARCHITECT. ALTERNATIVE: ALL EXPOSED DUCTWORK TO BE SINGLE WALL EXTERNALLY INSULATED WITH 1" RIGID BOARD INSULATION (CONTRACTOR TO PROVIDE AS A SEPARATE LINE ITEM CREDIT FOR THIS ALTERNATIVE).
3	ALL ROUND DIFFUSERS INSTALLED AT THE WORKROOM AREAS SHALL BE INSTALLED SYMMETRICALLY (SPACE EVENLY) AND AT THE SAME ELEVATION (9 FT A.F.F.) COORDINATE LOCATIONS WITH ALL THE TRADES PRIOR TO DUCT FABRICATION.
4	OPPOSED BLADE MANUAL VOLUME DAMPER WITH LOCKING QUADRANT. TYPICAL AT ALL BRANCHES TO PROPERLY BALANCE THE SYSTEM - REFER TO DETAILS FOR ADDITIONAL REQUIREMENTS. REFER TO NOTE #1 UNDER "IMPORTANT NOTES TO CONTRACTOR".
5	TRANSFER DUCT (300 FPM MAX) WITH MANUAL OPPOSED BLADE VOLUME DAMPER AND WALL MOUNTED GRILLE. FLUSH TO WALL FACING WORKROOM AREA.
6	NEW 14x4 E/A DUCTWORK UP TO ROOF EXHAUST FAN E/E-1 ABOVE. E/A FAN SHALL BE INSTALLED PER MANUFACTURER RECOMMENDATIONS AND SECURED, INCLUDING ASSOCIATED COMPONENTS, IN COMPLIANCE WITH THE WIND LOADING AND DEBRIS IMPACT REQUIREMENT OF LATEST FLORIDA BUILDING CODE CHAPTER 16 (HIGH-VELOCITY HURRICANE ZONE). COORDINATE ROOF OPENING WITH STRUCTURAL ENGINEER AND PROVIDE REINFORCEMENT AS NEEDED. NOTE: EXHAUST FAN SHALL BE INSTALLED 10 FT. OR MORE FROM ROOF EDGE AND FROM ANY OUTSIDE AIR INTAKE.
7	REFRIGERANT LINES (INSULATED & LABELED) UP TO CURB ON ROOF LEVEL ABOVE. COORDINATE ROOF PENETRATION.
8	TYPICAL DDC ADJUSTABLE THERMOSTAT/TEMPERATURE SENSOR WITH LOCKABLE PLASTIC COVER. COORDINATE DUCT LOCATION WITH ARCHITECT AND EQUIPMENT PLANS PRIOR TO ANY ROUGH-IN.
9	PROVIDE DUCT MOUNTED SMOKE DETECTOR (ADDRESSABLE) AT MAIN SUPPLY DUCT. SMOKE DETECTOR SHALL BE TIED-IN TO FIRE ALARM SYSTEM, PROPERLY TESTED AND CERTIFIED. COORDINATE WITH FIRE ALARM CONTRACTOR.
10	PROVIDE DUCT ACCESS PANEL FOR INSPECTION AND SERVICEABILITY.
11	24x6 S/A DUCTWORK TO OFFSET UP AFTER JOIST AND PENETRATE EXISTING BUILDING WALL ABOVE EXISTING BEAM. CONTRACTOR TO COORDINATE DUCT ROUTING TO CLEAR BLDG. STRUCTURE AND UTILITIES.
12	TRANSITION SMOOTHLY TO/FROM RTU CONNECTION (TYP. FOR ALL RTUS).
13	WALL MOUNTED GRILLES SHALL BE FLUSH WITH WALL TO AVOID OBSTRUCTIONS ELECTRICAL CLEARANCE SPACE.
14	NEW 10x10 S/A DUCTWORK TO BE CONNECTED TO EXIST. 10x10 BRANCH TO SERVE NEW DIFFUSERS ON EXISTING WORK ROOM AREA.
15	EXISTING LINEAR DIFFUSERS SERVING EXIST. BOX # PARCEL LOBBY TO BE REMOVED.
16	ROOFTOP PACKAGE DX UNIT MOUNTED ON ROOF ABOVE. COORDINATE EXACT DUCTWORK PENETRATIONS WITH BUILDING STRUCTURE & UTILITIES.
17	EXPOSED DUCTWORK SECTION PAINTED TO COLOR SELECTED BY ARCHITECT.

IMPORTANT NOTES TO CONTRACTOR	
1.	CONTRACTOR IS RESPONSIBLE TO FURNISH & INSTALL NEW OPPOSED BLADE MANUAL VOLUME DAMPERS AS REQUIRED IN ORDER TO PROPERLY BALANCE THE SYSTEM TO ALL SUPPLY, RETURN, EXHAUST & TRANSFERS. NOT ALL VOLUME DAMPERS ARE SHOWN.
2.	THIS IS A ROOM DIRECT RETURN SYSTEM.
3.	AREAS HAVING CEILINGS, SUCH AS BREAK ROOM, LOCKERS & TOILETS ARE RETURN AIR PLENUMS. THIS MATERIALS WITHIN RETURN AIR PLENUM SHALL BE NONCOMBUSTIBLE OR SHALL HAVE FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84 OR UL 79 AS PER MECH-FBC SECTION 602.2.1.
4.	PROVIDE ACCESS DOORS/PANELS AT CEILING & DUCTWORK AS REQUIRED TO ALL CONTROLS, SMOKE DETECTORS, FIRE DAMPERS, ETC.) FOR PROPER SERVICEABILITY. ACCESS DOORS AT DUCTWORK SHALL BE ULTRA LOW LEAKAGE, DOUBLE WALL INSULATED AND GASKETED.
5.	ALL NEW EQUIPMENT SHALL BE INSTALLED PER MANUFACTURER RECOMMENDATIONS TO COMPLY WITH REQUIRED CLEARANCES FOR PROPER SERVICEABILITY AND PERFORMANCE.
6.	ALL ACTUATORS SHALL HAVE FULL FEEDBACK CAPABILITIES & PROVIDED WITH AUXILIARY END SWITCHES.
7.	ALL CONTROL WIRING SHALL BE ROUTED IN CONDUIT. COORDINATE WITH CONTROLS & ELECTRICAL CONTRACTOR.
8.	ALL DIFFUSERS AND GRILLES SHALL BE CENTERED ON CEILING TILES OR DUCTS. COORDINATE WITH ARCHITECT AND OTHER TRADES PRIOR TO FABRICATING OR INSTALLING ANY COMPONENTS/DUCTWORK. FOR AREAS WITHOUT CEILING ROUND DIFFUSERS SHALL BE SPREAD EVENLY & INSTALLED AT SAME ELEVATION.
9.	PROVIDE RETOTE VOLUME DAMPER CONTROLLER (YOUNG REGULATOR) FOR ALL AREAS WITH HARD CEILINGS WITHOUT ACCESS PANELS AND/OR INACCESSIBLE CEILINGS.
10.	FOR ALL DIFFUSERS, GRILLES & LINEAR DIFFUSERS, INSULATE ASSOCIATED BACKPAN AS WELL AS SEALING INSULATION TO DUCT & CEILING WITH VAPOR BARRIER TAPE.
11.	ALL SUPPORTS, CLEVIS HANGER, THREADED RODS, ETC. SHALL BE NOT CORRODED GALVANIZED STEEL.
12.	ALL MITERED ELBOWS SHALL BE PROVIDED WITH TURNING VANES. TURNING VANES SHALL BE OF SAME MATERIAL AS DUCTWORK, AND BE AIRFOIL TYPE, DOUBLE THICKNESS.
13.	ALL TAKE-OFF SHALL HAVE A 45 DEGREE WITH GASKET FLANGE. REFER TO DETAILS.
14.	CONTRACTOR SHALL FIELD COORDINATE REQUIRED TRANSITIONS FROM UNIT CONNECTIONS TO DUCTWORK. COORDINATE CURB STRUCTURAL CROSS MEMBERS TO ALLOW CONNECTION TO DUCTWORK.
15.	INSULATE BOTTOM OF THE ENTIRE UNIT AND ROOF CURB WALLS WITH FIBERGLASS ASU OR AIRWLEED.
16.	PROVIDE UL LISTED FIRE STOPPING AT ALL PENETRATIONS THROUGH RATED PARTITIONS/WALLS, SLABS AND/OR SMOKE TIGHT PARTITION/BARRIERS.
17.	ALL ROOMS SHALL HAVE A RETURN GRILLE. ROOMS CONFORMED OF WALLS UP TO STRUCTURE SHALL BE PROVIDED WITH PROPER TRANSFERS DUCT (SIZED FOR 300 FPM) WITH A WALL GRILLE AND MANUAL VOLUME DAMPER.
18.	ALL WALL MOUNTED GRILLES SHALL BE NEATLY INSTALLED FLUSH WITH WALL & PAINTED TO MATCH WALL COLOR OR AS SELECTED BY ARCHITECT.



RETURN RTU INTAKE OPENING DETAIL
SCALE: N.T.S.

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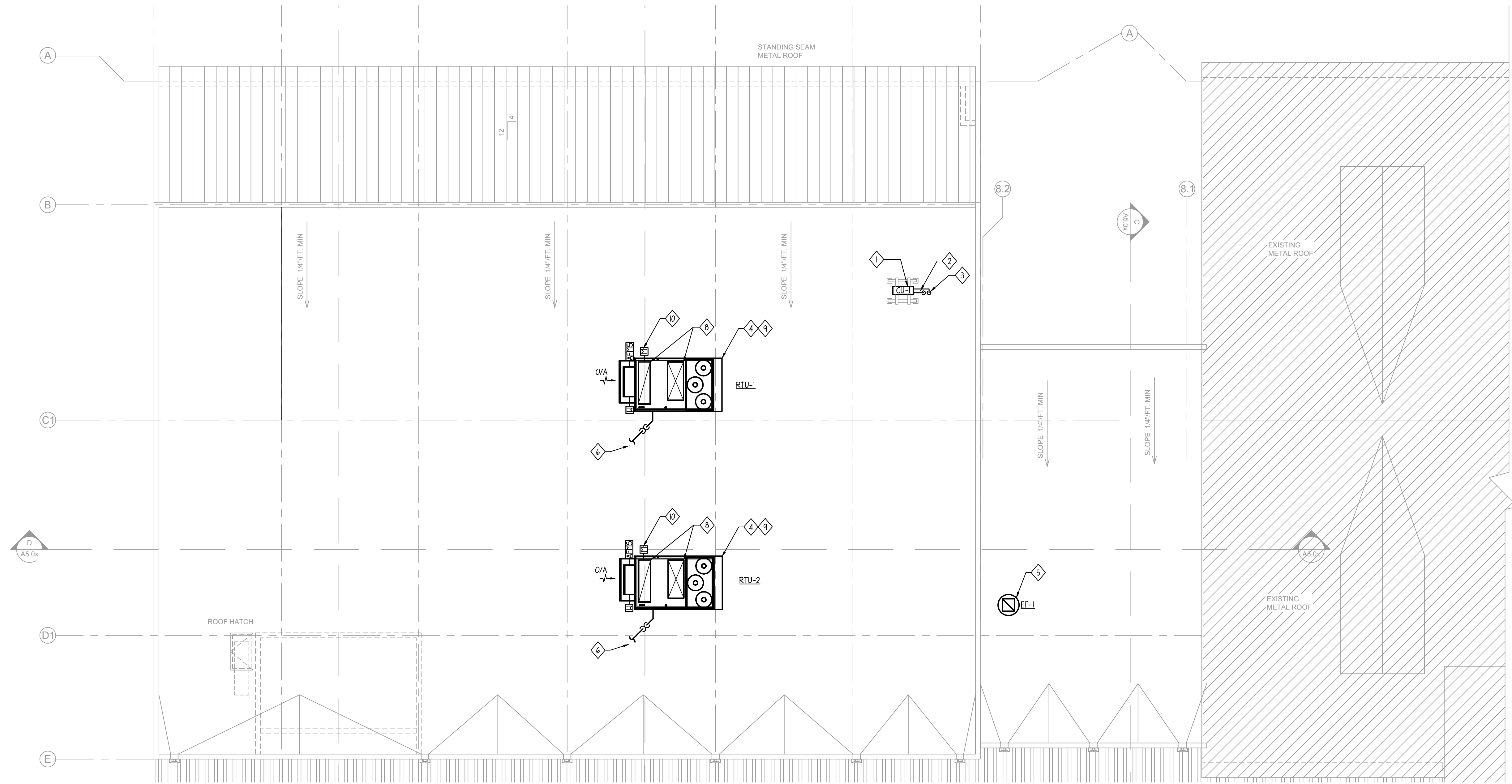
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UNITED STATES POSTAL SERVICE

M2.01
Scale: NOTED Date: 06/16/22
Project: 21-23
USPS File Number: E54635

Revisions:



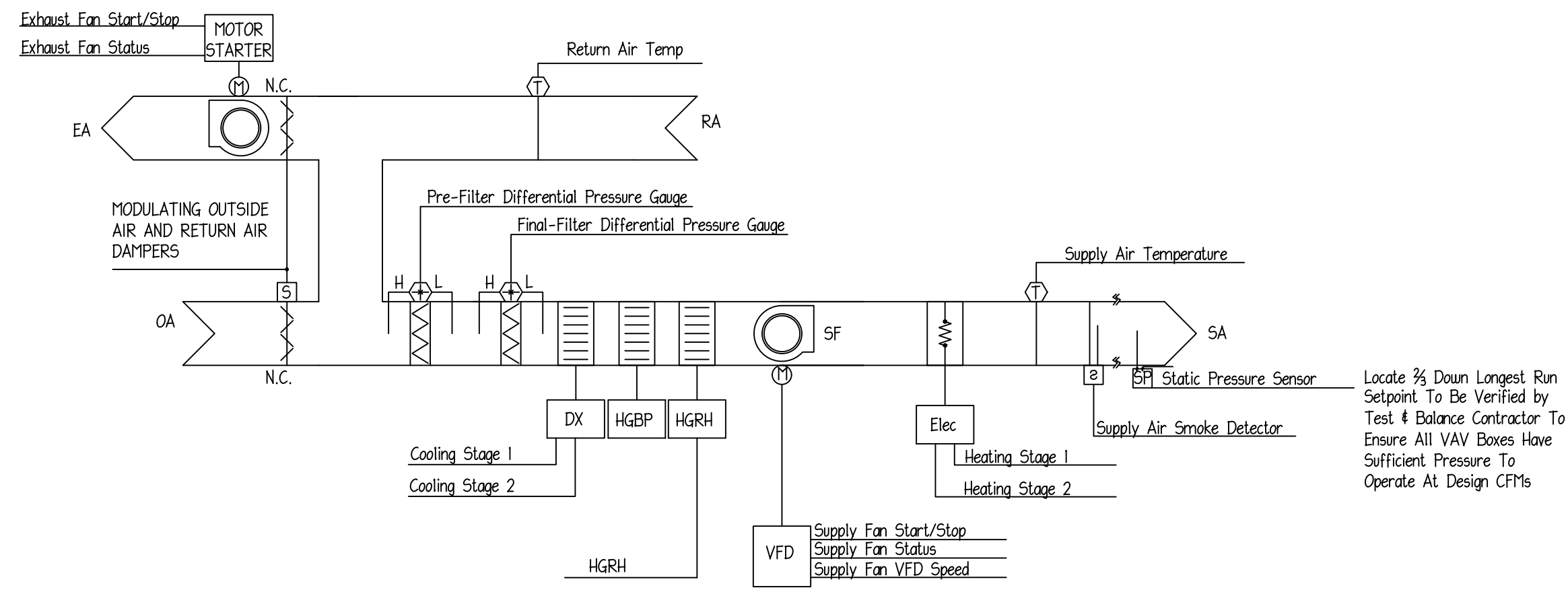
1 MECHANICAL ROOF PLAN SCALE: 1/8"=1'-0"

ROOF NOTES TO CONTRACTOR:

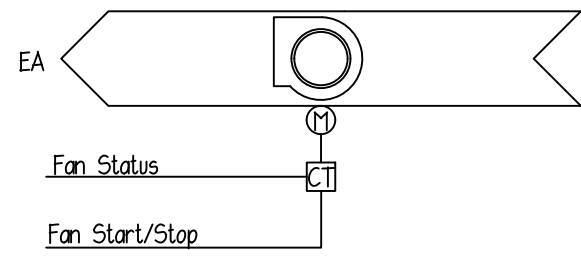
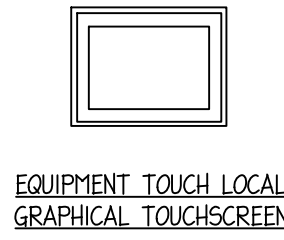
- ALL HVAC EQUIPMENT SHALL BE SECURED TO THE BUILDING STRUCTURE IN COMPLIANCE WITH THE WIND LOADING AND DEBRIS IMPACT REQUIREMENTS OF FBC (HIGH VELOCITY WINDS).
NOTE: MECHANICAL CONTRACTOR SHALL INCLUDE ENGINEERED WIND LOAD CALCULATIONS (S45) FOR RTU's, CONDENSING UNIT, EXHAUST FANS, ROOF STANDS, ETC.
- COORDINATE ALL ROOF OPENINGS WITH STRUCTURAL DRAWINGS.
- ROOFTOP UNITS OUTSIDE AIR INTAKE SHALL BE AT 10FT MINIMUM DISTANCE FROM ANY EXHAUST OPENING OR PLUMBING VENT AND SHALL BE RAISED 36 INCHES ABOVE FINISHED ROOF.
- ROOFTOP UNITS AND ASSOCIATED ROOF CURBS SHALL BE RATED FOR HIGH VELOCITY WINDS. UNIT MANUFACTURER SHALL INCLUDE/PROVIDE ENGINEERED HIGH WIND LOAD CALCULATION AND ATTACHMENT DETAILS (S45). SUBMIT AS PART OF SHOP DRAWING PACKAGE FOR PROJECT'S STRUCTURAL ENGINEER REVIEW AND APPROVAL.
- ALL ROOF MOUNTED EQUIPMENT MOUNTED ON CURBS SHALL BE RAISED MINIMUM 8 INCHES ABOVE THE ROOF SURFACE AS PER SECTION S45.5 OF FBC. CONTRACTOR SHALL VERIFY ROOFING THICKNESS & SLOPING TO COMPLY WITH THIS REQUIREMENT.
- CONTRACTOR SHALL COORDINATE IN DETAIL ALL ROOF WORK WITH ROOFING CONTRACTOR, STRUCTURAL DRAWINGS AND ARCHITECT TO MAINTAIN ROOF INTEGRITY.
- HVAC EQUIPMENT SHALL BE INSTALLED MORE THAN 10 FT AWAY FROM THE ROOF EDGE.
- PROVIDE UL LISTED FIRE STOPPING AT ALL PENETRATIONS THROUGH ROOF.
- ALL EQUIPMENT SHALL BE INSTALLED PER MANUFACTURER RECOMMENDATIONS TO COMPLY WITH REQUIRED CLEARANCES FOR PROPER SERVICEABILITY AND PERFORMANCE.
- ALL CONTROL WIRING SHALL BE ROUTED IN CONDUIT. COORDINATE WITH CONTROLS & ELECTRICAL CONTRACTOR.
- EXHAUST FANS SHALL BE INSTALLED MORE THAN 10 FT AWAY FROM THE BUILDING EDGE, MORE THAN 10 FT FROM ANY AIR INTAKES.
- ALL ROOF SUPPORTS AND ASSOCIATED COMPONENTS SHALL BE ALL ALUMINUM CONSTRUCTION.
- ALL EQUIPMENT SHALL BE LABELED WITH ENGRAVED PLASTIC SIGN WITH NAMING CONVENTION NOTED HEREIN OR AS DIRECTED BY FACILITY MGR.
- ALL ROOF MOUNTED EQUIPMENT SHALL BE RAISED TO HAVE A MINIMUM CLEARANCE ABOVE FINISH ROOF IN COMPLIANCE WITH TABLE 622.3 OF FBC.

MECHANICAL ROOF KEY NOTES

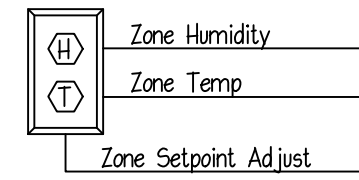
- ◇ TYPICAL CONDENSING UNIT MOUNTED ON ALUMINUM STAND (S 4 5 CALCULATIONS AND DETAILS BY CONTRACTOR). PROVIDE ISOLATION NEOPRENE PADS AND PROPERLY SECURE UNIT IN COMPLIANCE WITH FBC HIGH VELOCITY WINDS.
- ◇ NOTE: CONTROL WIRING FROM CONDENSING UNIT TO AC UNIT SHALL RUN IN CONDUIT SEPARATE FROM POWER FEEDER UNLESS ACCEPTED OTHERWISE BY UNIT MANUFACTURER.
- ◇ SECURE AND PROVIDE SUPPORT TO REFRIGERANT LINES IN A NEATLY ORGANIZED MANNER FROM CONDENSING UNIT.
- ◇ REFRIGERANT LINES DOWN TO AC UNIT BELOW THROUGH ROOF SHEETMETAL GOOSENECK TO AC UNIT INSIDE CO ROOM. COORDINATE WITH G.C. OPENING SIZE REQUIRED TO ACCOMMODATE ALL REFRIGERANT LINES INCLUDING ALL ELECTRICAL PROVISIONS. PROPERLY SEAL GOOSENECK OPENING WITH FOAM (WATER RESISTANT FOR OUTDOOR USE). REFRIGERANT LINES SHALL BE ROUTED IN A NEATLY ORGANIZED MANNER AND PROPERLY INSULATED AND COVERED WITH ALUMINUM JACKET.
- ◇ ROOFTOP PACKAGE DX UNIT MOUNTED ON ITS ASSOCIATED ROOF CURB. COORDINATE AND PROVIDE CLEARANCE AROUND UNIT AS PER MANUFACTURER RECOMMENDATIONS.
- ◇ EXHAUST FAN MOUNTED ON ASSOCIATED ROOF CURB. COMPLETE ASSEMBLY SHALL BE PROPERLY SECURED IN COMPLIANCE WITH FBC HIGH VELOCITY.
- ◇ NEW CONDENSATE LINE FROM RTU'S WITH OVERFLOW SWITCH. PROVIDE P-TRAP AND RUN PIPE SLOPING AT 1/4" PER FT. TO DISCHARGE INDIRECTLY INTO DOWNSPOUT. REFER TO PLUMBING FOR CONTINUATION.
- ◇ NOTE: INSULATE WITH 1" ARMAFLEX AND PROTECTED WITH ALUMINUM JACKETING.
- ◇ RTU'S O/A INTAKE HOOD WITH FACTORY MOUNTED ROTORIZED MODULATING AIR DAMPER CORROSION RESISTANT OR (OPPOSED BLADE ACTION) AND WITH AIRFLOW MEASURING STATION. DAMPER SHALL BE INTERLOCK WITH R/A MOTORIZE DAMPER.
- ◇ COORDINATE EXACT S/A AND R/A DUCT PENETRATION BELOW UNIT WITH ACTUAL APPROVED SUBMITTAL. REFER TO MECHANICAL GROUND FLOOR FOR CONTINUATION. TRANSITION SMOOTHLY WITHIN CURB TO UNITS OPENING.
- ◇ PROVIDE ROOF INSULATION BELOW RTU UNITS. CONTRACTOR SHALL ALSO INSULATE ROOF CURB INTERIOR WALLS AND BOTTOM OF UNIT. COORDINATE WITH ROOFING CONTRACTOR SEQUENCING OF WORK.
- ◇ FACTORY MOUNTED MODULATING R/A CONTROL DAMPER (26W/C). CONTROL CONTRACTOR SHALL WIRE AND CONTROL DAMPER IN CONJUNCTION WITH O/A CONTROL DAMPER AND ASSOCIATED ARMS. REFER TO CONTROL SEQUENCE OF OPERATION. NOTE: RTU SHALL BE EQUIPPED WITH OPTION POWER EXHAUST. ALL ASSOCIATED DAMPERS FOR ECONOMIZER MODE SHALL BE INCLUDED FOR UNITS TO GO ONTO ECONOMIZER MODE. REFER TO SEQUENCE OF OPERATIONS.



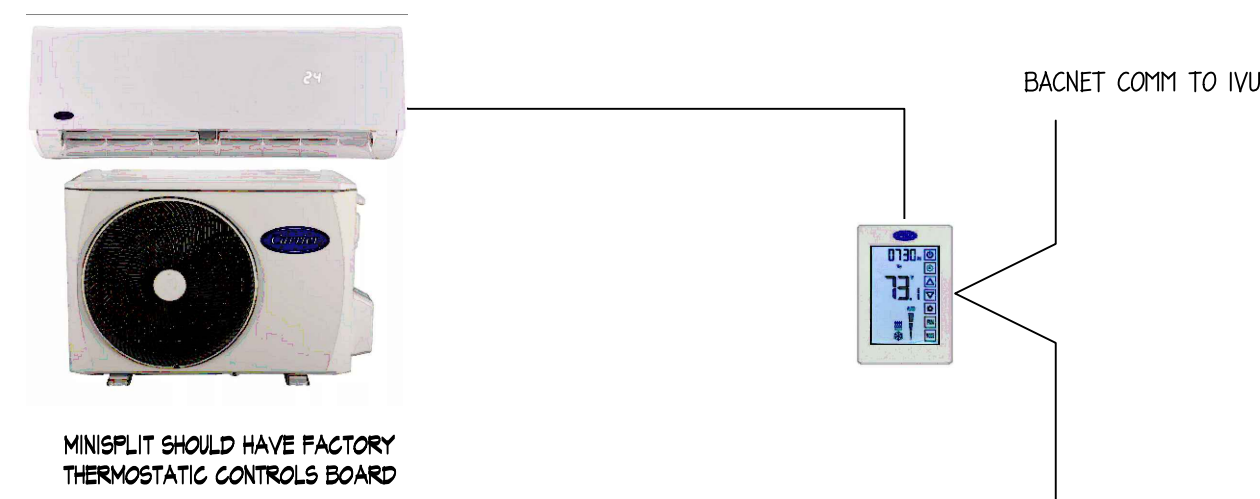
ACCESS SYSTEM PARAMETERS, SCHEDULES, ALARMS, GRAPHICS LOCALLY WITHOUT PC



EXHAUST FAN INTERLOCKS (SEE SCHEDULES)



1 RTU'S WITH STAGED AIR VOLUME - STAND ALONE CONTROL DIAGRAM
SCALE: N.T.S.



2 AC-1 / CU-1 CONTROL DIAGRAM
SCALE: N.T.S.

CONTROLS SEQUENCE OF OPERATIONS

BASIS OF DESIGN CARRIER

1. RTU'S (SINGLE ZONE VAV):

UNIT CONTROLS:

- PROVIDE STAND ALONE CONTROLLER CAPABLE TO CONTROL UNIT BASED ON SEQUENCE OF OPERATIONS HEREIN AND HAVE ALL SAFETIES, FIRE ALARM SHUT-DOWN, INTERLOCKING WITH EXHAUST FAN, ETC. INCLUDING CONTROLS FOR PART LOAD CONDITIONS - STAGING.
- STARTING AND STOPPING OF EQUIPMENT SHALL BE ACCOMPLISHED THROUGH A VFD/CONTROLLER. THE UNIT SHALL BE STARTED AUTOMATICALLY BY STAND ALONE DDC SYSTEM AND ALL CONTROLS ACTIVATED SUBJECT TO FIRE ALARM RELAY, SAFETIES AND OVERLOADS. THE UNIT OCCUPANCY SCHEDULE SHALL BE SCHEDULED AS OCCUPIED 24HR/DAY/7 DAY/WEEK.
- THE SUPPLY FAN AND ALL DDC HARDWARE CONTROL LOOPS ARE SUBJECT TO PROOFS AND SAFETIES.

DEHUMIDIFICATION:

- EACH UNIT CONTROLLER SHALL MONITOR HUMIDITY LEVEL IN ZONE AND ENTER A SUBCOOLING OR REHEAT MODE TO DEHUMIDIFY SUPPLY AIR. TO MAINTAIN A SUPPLY AIR TEMPERATURE IN RANGE TO MEET ZONE TEMPERATURE SETPOINTS, THE CONTROLLER SHALL MODULATE THE HGRH VALVE.

SUPPLY FAN:

- THE RTU WILL BE FACTORY SUPPLIED WITH A DIRECT DRIVE SUPPLY FAN WITH VFD.
- THE SUPPLY FAN SHALL RUN ANYTIME THE UNIT IS COMMANDED TO RUN, UNLESS SHUTDOWN ON SAFETIES. TO PREVENT SHORT CYCLING, THE SUPPLY FAN SHALL HAVE A USER DEFINABLE (ADJ.) MINIMUM RUNTIME.
- ALL ALARMS SHALL BE LOCAL.
- NOTE THE AIR HANDLING UNIT CANNOT GO BELOW MINIMUM AIRFLOW ACCEPTED BY MANUFACTURER - REFER TO SCHEDULE AND APPROVED SUBMITTAL.

OUTSIDE AIR DAMPER CONTROL:

- THE AUTOMATIC OUTSIDE AIR AND RETURN AIR DAMPERS SHALL MODULATE - BASED ON A SIGNAL FROM THE OUTSIDE AIR FLOW MEASURING STATION (AFMS - REFER TO SHEET M0.02) - TO MAINTAIN A CONSTANT OUTSIDE AIR FLOW RATE. IF THE OUTSIDE AIR DAMPER REACHES FULL OPEN AND OUTSIDE AIR VOLUME IS NOT SATISFIED, THEN THE AUTOMATIC CONTROL DAMPER IN THE RETURN AIR DUCT SHALL MODULATE CLOSED TO MAINTAIN SCHEDULED OUTSIDE AIRFLOW. UPON FAILURE, THE OA DAMPER SHALL BE NORMALLY CLOSED. WHENEVER THE AHU OPERATES DURING UNOCCUPIED MODE OR IT IS DE-ENERGIZED, THE OA DAMPER SHALL REMAIN CLOSED.

COOLING:

- DISCHARGE AIR CONTROL: IN THE COOLING MODE, THE UNIT CAPACITY SHALL BE MODULATED TO MAINTAIN A CONSTANT COOLING DISCHARGE AIR SET POINT OF 55°F (MAX). THE COOLING DAT SET POINT SHALL BE ADJUSTABLE AT THE UNIT CONTROLLER. THE RTU SHALL EQUIPPED WITH HOT GAS BYPASS OR RAMAL TO OPERATE AT PART LOAD CONDITIONS. UNIT CAPACITY SHALL HAVE A MINIMUM OF (2) STAGES FOR VARYING ITS COOLING CAPACITY.

HEATING:

- THE CONTROLLER WILL MEASURE THE SUPPLY AIR TEMPERATURE AND STAGE THE HEATING TO MAINTAIN ITS HEATING SETPOINT. TO PREVENT SHORT CYCLING, THERE WILL BE A USER DEFINABLE (ADJ.) DELAY BETWEEN STAGES, AND EACH STAGE WILL HAVE A USER DEFINABLE (ADJ.) MINIMUM RUNTIME.
- THE HEATING WILL BE ENABLED WHENEVER: OUTSIDE AIR TEMPERATURE IS LESS THAN 60°F (ADJ.), AND THE SUPPLY AIR TEMPERATURE IS BELOW HEATING SETPOINT, AND THE COOLING (IF PRESENT) IS NOT ACTIVE, AND THE SUPPLY FAN STATUS IS ON.

DUCT SMOKE DETECTOR / EMERGENCY SHUT-DOWN:

- ALL SAFETIES REQUIRED MANUAL RESET TO RESTART RTU.

- FIRE ALARM: WHEN A FIRE ALARM DEVICE WITHIN THE ZONE IS TRIGGERED, THE RTU SHALL SHUT-DOWN AND ALL ASSOCIATE DAMPERS SHALL CLOSE.
- SMOKE DUCT DETECTION: WHEN A SMOKE DUCT DETECTORS IS TRIGGERED, A SIGNAL AND ALARM SHALL BE SENT TO THE F/A SYSTEM SO THAT ALL ROOFTOP UNIT IS COMMANDED TO SHUT-DOWN. ALL ASSOCIATED DAMPERS SHALL CLOSE. UNIT SHALL BE PROVIDED WITH A SMOKE DUCT DETECTOR AT THE SUPPLY DUCTWORK AND BE TIED-IN TO F.A. SYSTEM.

RELAY:

- PROVIDE REQUIRED RELAYS FOR INTERLOCKING WITH EXHAUST FAN AS PER SCHEDULE ON DRAWING H-0.2.
- PROVIDE REQUIRED RELAYS FOR INTERLOCKING WITH FIRE ALARM SYSTEM AND/OR DUCT SMOKE DETECTOR.

ECONOMIZER / POWER EXHAUST MODE:

- THE INTEGRAL POWER EXHAUST FAN SHALL RUN ANYTIME THE UNIT IS COMMANDED TO RUN & THE SUPPLY FAN RUN STATUS IS PRESENT, UNLESS SHUTDOWN ON SAFETIES. THE EXHAUST AIR DAMPER SHALL BE OPENED FROM TO POWER EXHAUST COMMANDED ON DURING OCCUPIED / ECONOMIZER MODE. ECONOMIZER CONTROL SHALL BE A FACTORY CONTROL OPTION. THE SYSTEM SHALL GO INTO ECONOMIZER MODE WHENEVER THE OUTDOOR DRY-BULB TEMPERATURE AS SENSED BY THE OUTDOOR AIR TEMPERATURE SENSOR IS BELOW (50°F-ADJ.). WHENEVER THE OUTDOOR DRY-BULB TEMPERATURE IS ABOVE (60°F-ADJ.) THE POWER EXHAUST SHALL SHUTDOWN & OUTSIDE AIR DAMPER SHALL GO TO ITS NORMAL/OCCUPIED MINIMUM POSITION.

2. EXHAUST FAN(S):

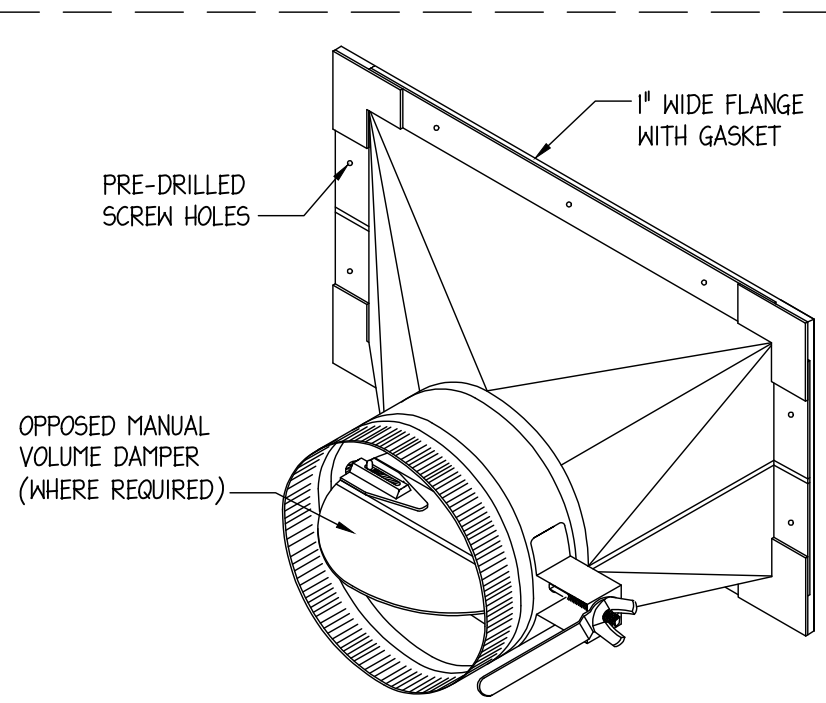
- EXHAUST FAN (EE-1) SHALL BE INTERLOCKED WITH ITS CORRESPONDING ROOFTOP UNIT.
 - FAN SHALL CONTINUOUSLY RUN EVERY TIME THE UNIT IS COMMAND TO RUN OR VICE VERSA WHEN IT IS DE-ENERGIZED.

3. DX SPLIT AC UNITS (SERVING C/O ROOM)

- THE SPLIT UNIT SHALL RUN CONTINUOUSLY (AUTO-MODE) AND SHALL MAINTAIN A COOLING SET-POINT OF 74°F (ADJUSTABLE).
- UNIT THERMOSTAT/CONTROLLER SHALL BE CAPABLE TO:
 - ON & OFF
 - SUPPORT SCHEDULE SETTINGS WITH SELECTABLE WEEKLY PATTERN OPTIONS.
 - SAFETIES
- ALARMS:
 - PROVIDE A FLOAT-SWITCH AT UNIT'S CONDENSATE LINE. UPON AN DETECTION OF HIGH CONDENSATE LEVEL, THE SPLIT DX UNIT SHALL SHUT DOWN.

4. FIRE ALARM COORDINATION & REQUIREMENTS

- REFER TO FIRE ALARM DRAWINGS FOR ADDITIONAL REQUIREMENTS.
- F.A. CONTRACTOR SHALL COORDINATE WITH MECHANICAL AND CONTROLS CONTRACTORS SCOPE OF WORK PRIOR TO BIDDING OR PROVIDING PROPOSAL - NOT ADDS ALLOWED.
- RELAYS & CONTACTS: F.A. CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL REQUIRED RELAYS AND CONTACTS AS NEEDED TO ACCOMPLISH SEQUENCE OF OPERATIONS.
- WIRING: ALL WIRING SHALL RUN IN CONDUIT. THIS IS A SPACE DIRECT AIR SYSTEM.
- RTU's, SPLIT UNITS SHALL INTERLOCK WITH F.A. SYSTEM - REFER TO CONTROLS SEQUENCE OF OPERATIONS.
- SMOKE DETECTORS:
 - DO NOT LOCATE DETECTOR IN DIRECT AIR OR CLOSED THAN 3 FEET FROM SUPPLY AIR DIFFUSERS.
 - REMOTE TEST SWITCH WITH STATUS/ALARM INDICATORS SHALL BE PROVIDED FOR DUCT SMOKE DETECTORS.
 - PROVIDE ADDRESSABLE DUCT SMOKE DETECTORS.
 - PROVIDE DUCT SMOKE DETECTORS ON THE SUPPLY AIR SIDE OF AIR HANDLING UNITS OVER 2,000 CFM AS REQUIRED BY NFPA AND MEGH-FBC



NOTES:
SHALL MEET SMACNA GAUGE STANDARDS.
MAXIMUM 2" W.G. STATIC POSITIVE PRESSURE.

D1 45 DEGREE TAKEOFF WITH GASKET FLANGE AND MANUAL VOLUME DAMPER

SCALE: N.T.S.

DIMENSIONAL DATA		
DIAMETER (INCHES)	RECTANGULAR OPENING (INCHES)	HEIGHT (INCHES)
4	8x6	9 1/2
5	10x6	8 1/2
6	12x6	8 1/2
7	12x6	9 1/2
8	12x6	8 1/2
9	15x6	11 1/2
10	16x6 1/2	9 1/2
12	18x8 1/2	10 1/2
14	20x9 1/2	12 1/2
16	24x12	12 1/2
18	26x14	13 1/2
20	28x16	14 1/2

FABRICATION DATA

MATERIAL:
FABRICATED FROM HOT DIPPED GALVANIZED STEEL SHEETS PER ASTM-A653 CS TYPE B.

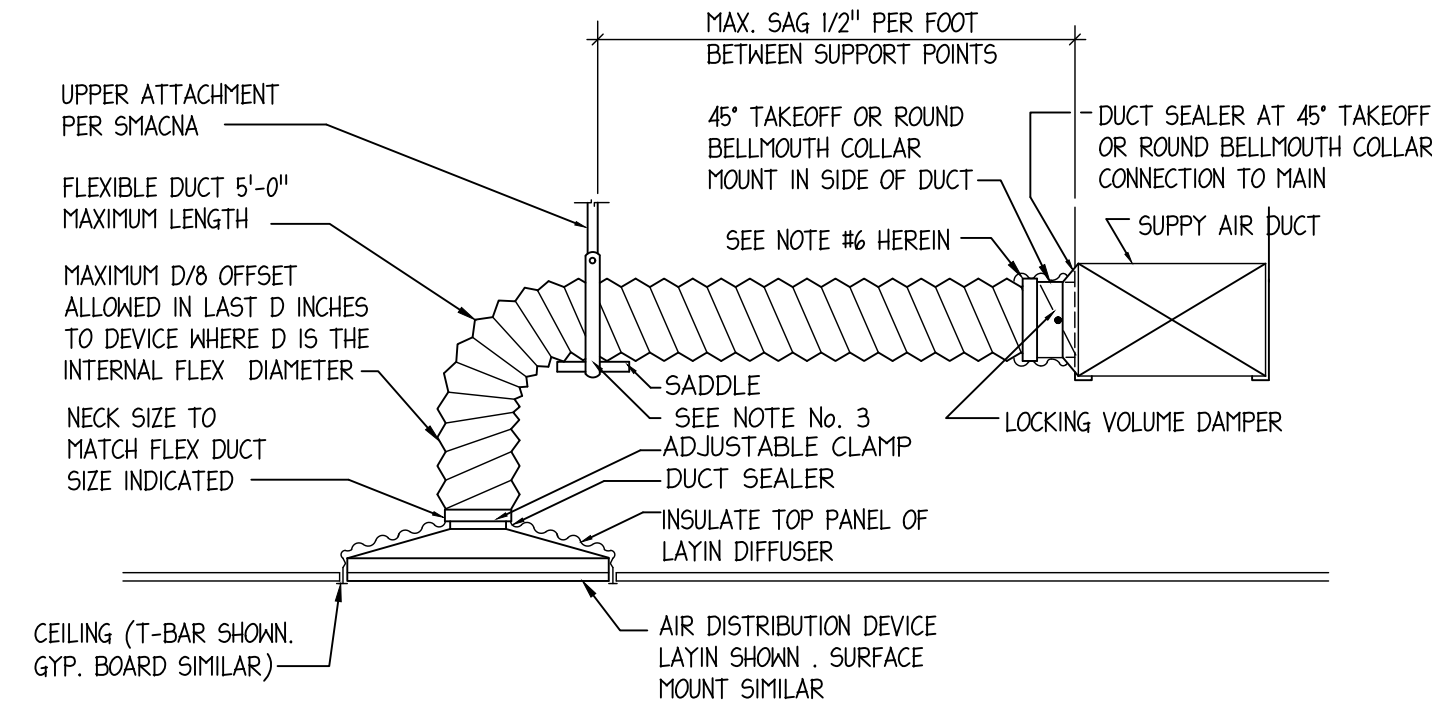
GAUGES:
4" THROUGH 8" = 28 GAUGE
9" THROUGH 14" = 26 GAUGE
16" THROUGH 20" = 24 GAUGE

FEATURES

SHALL BE FABRICATED WITH CONTINUOUS WELD LONGITUDINAL SEAM FOR NO AIR LEAKAGE AT 2" W.G. STATIC PRESSURE.

1" WIDE FLANGE WITH GASKET AND PRE-DRILLED SCREW HOLES.

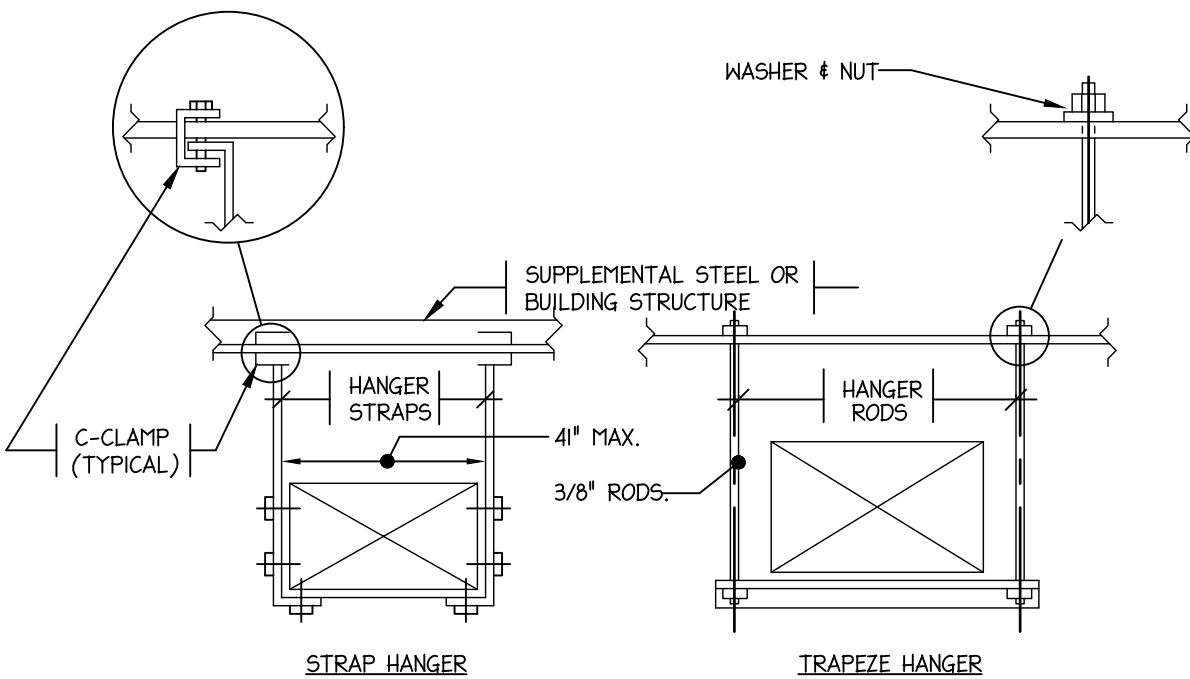
AS PER CROWN PRODUCTS COMPANY MODEL 3300-D5, OR APPROVED EQUAL.



NOTES:
1. FLEXIBLE DUCTS SHALL BE ONE PIECE AND SHALL NOT BE SPLICED TOGETHER.
2. EXTEND FLEXIBLE DUCT INSULATION TO DUCT/DIFFUSER PANEL INSULATION AND SEAL WITH MASTIC.
3. MINIMUM 1" WIDE 22 GALVANIZED STRAP HANGER WITH HEMMED EDGES PER SMACNA FIGURE 3-10.
4. FLEXIBLE AIR DUCT SHALL NOT EXCEED 5 FT WHEN EXTENDED. ELBOW RADIUS SIZED FOR NO LESS THAN $R/D = 1.0$.
5. FLEXIBLE DUCTWORK: FLEXIBLE DUCTS SHALL COMPLY WITH FBC SECTION 419.3.6.4 THROUGH 419.3.6.4.4 AND LISTED BY UNDERWRITERS LABORATORIES, INC., UNDER UL STANDARD IBI AS A CLASS 1 FLEXIBLE AIR DUCT AND COMPLYING WITH NFPA STANDARDS 90A AND 90B.
6. THE FLEXIBLE DUCT SKINNY-ON SECTION SHALL HAVE SOLID CONNECTION BETWEEN THE INNER LINER AND THE CONNECTOR, SEAL IT WITH MASTIC OR TAPE, AND THEN BRING THE INSULATION AND OUTER JACKET OVER THE CONNECTION AND SEAL IT TO MAINTAIN THE INSULATION R-VALUE.
7. DO NOT INSTALL CEILING GRID UNTIL ROUGH DUCT HAS BEEN INSPECTED AND APPROVED BY BUILDING INSPECTOR.

D2 FLEXIBLE DUCT TAKEOFF DETAIL

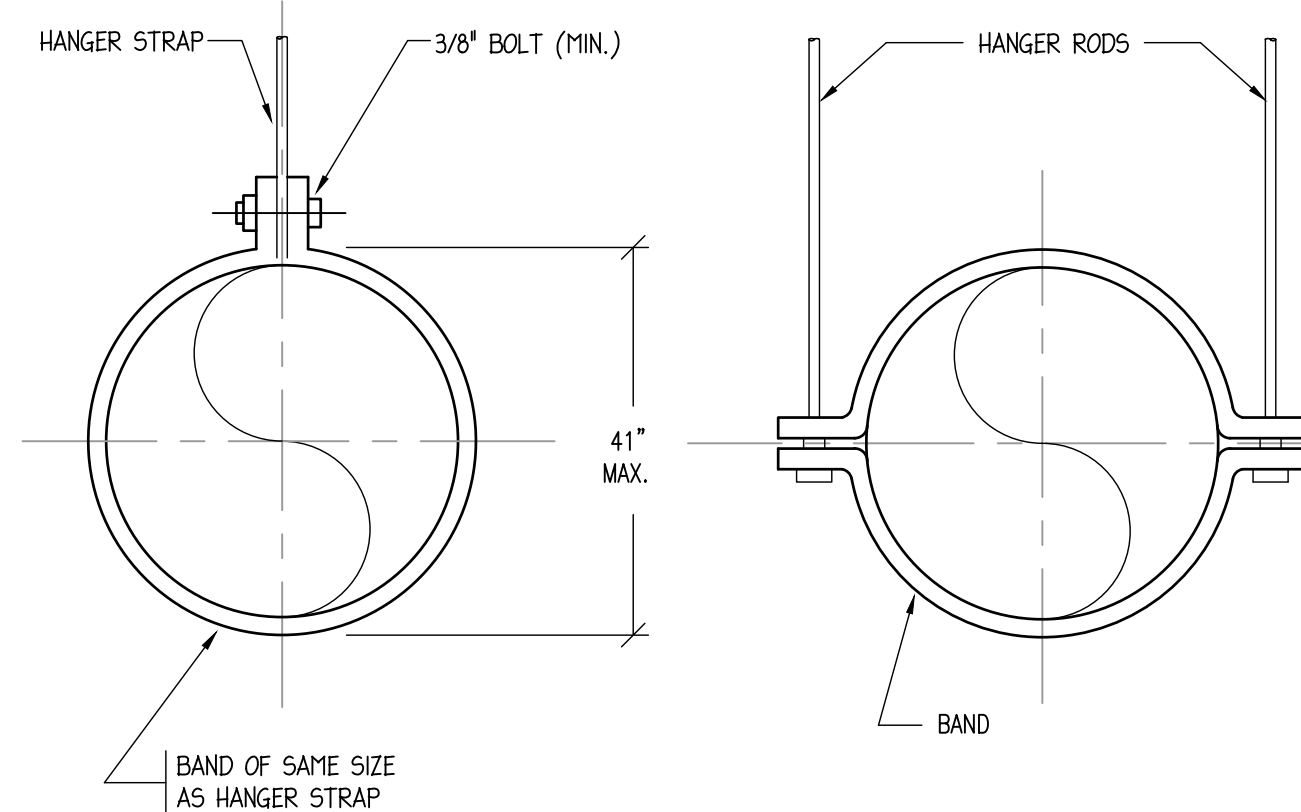
SCALE: N.T.S.



NOTES:
1. NO POP RIVETS ALLOWED, USE SELF-TAPPING SHEETMETAL SCREWS ONLY.

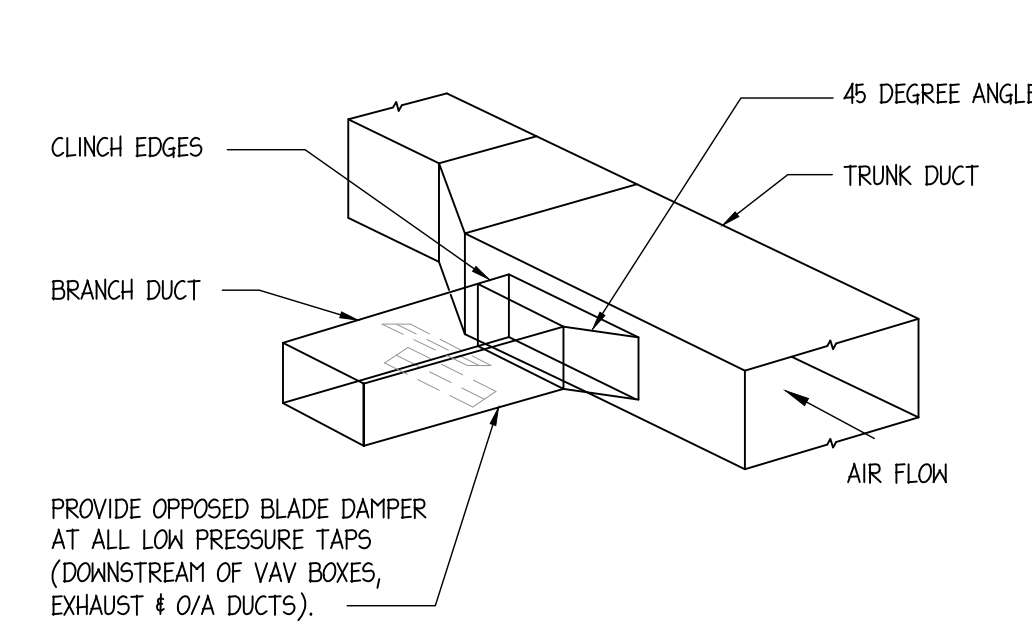
D3 DUCT SUPPORT DETAIL

SCALE: N.T.S.



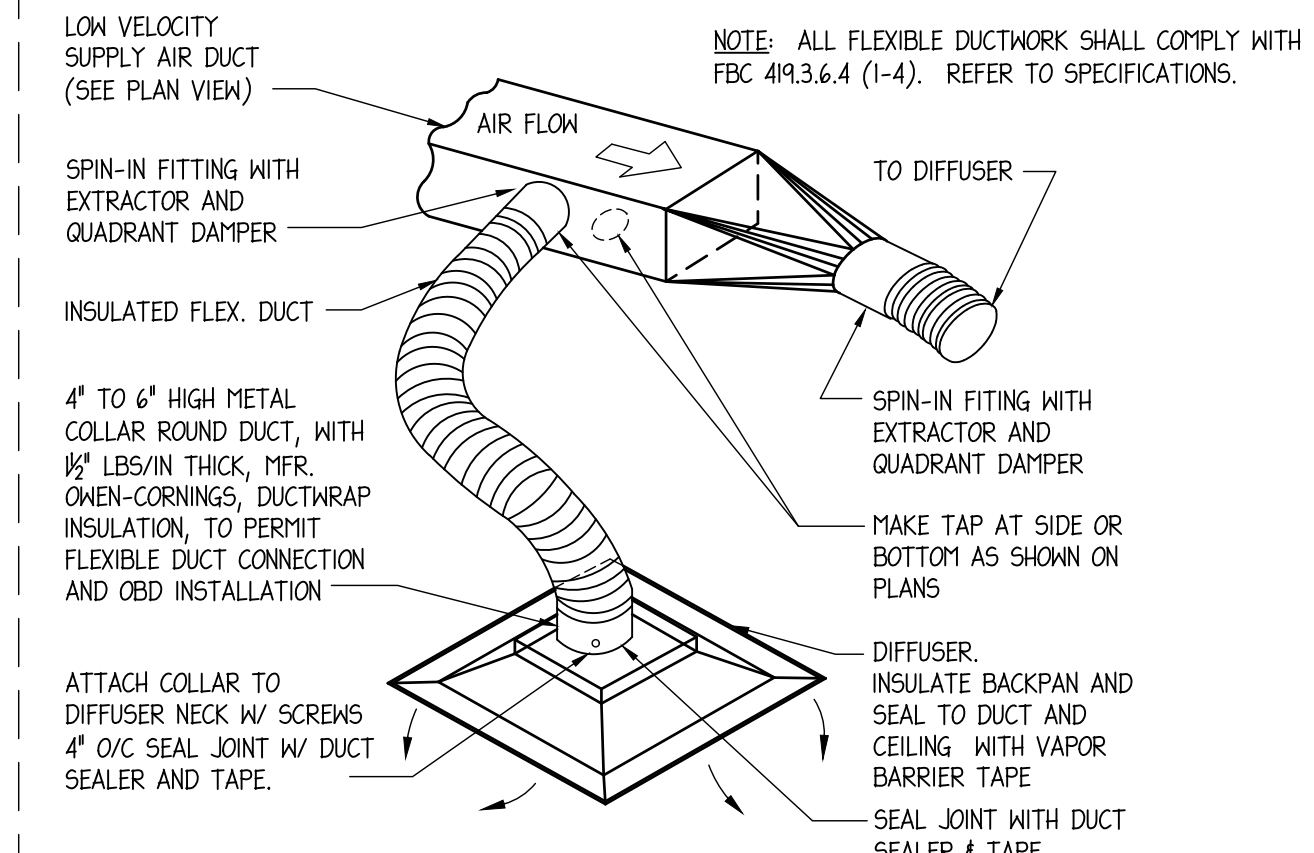
D4 ROUND DUCT HANGERS

SCALE: N.T.S.



D5 TYPICAL 90 DEG. DUCT TAP WITH DAMPER BLADE DETAIL

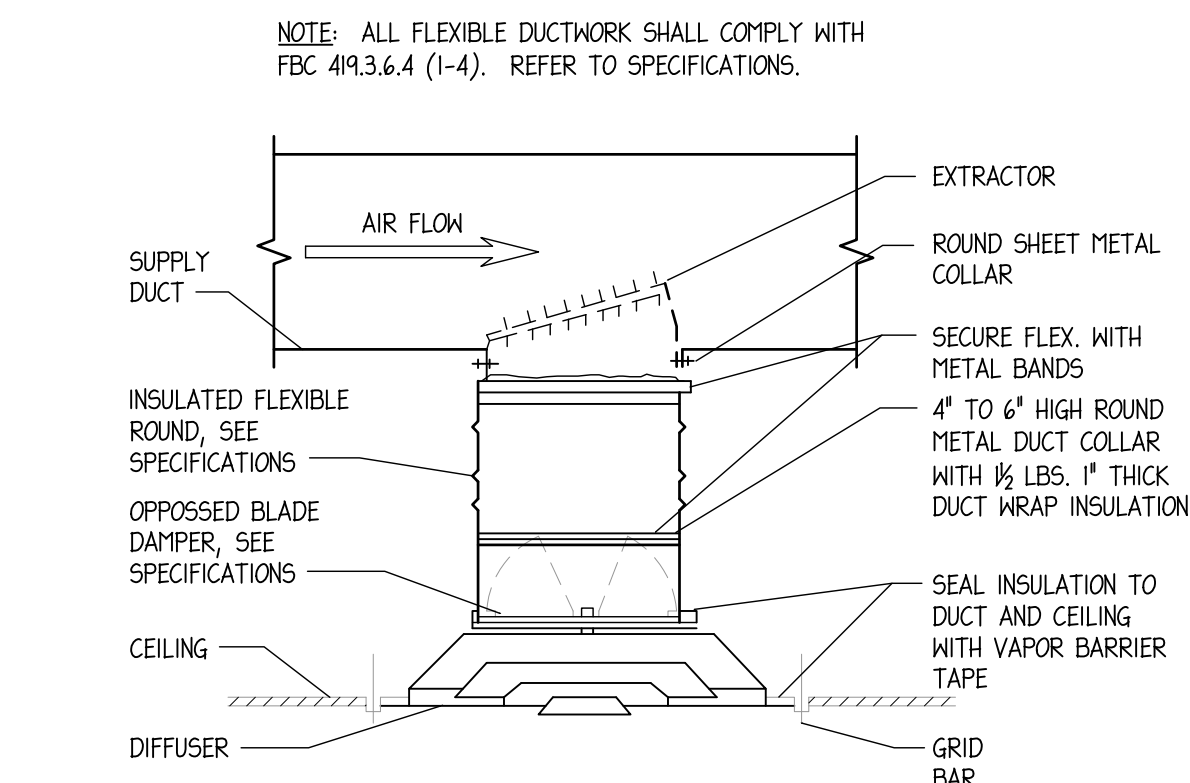
SCALE: N.T.S.



NOTE: ALL FLEXIBLE DUCTWORK SHALL COMPLY WITH FBC 419.3.6.4 (1-4). REFER TO SPECIFICATIONS.

D6 FLEXIBLE DUCT CONNECTION DETAIL

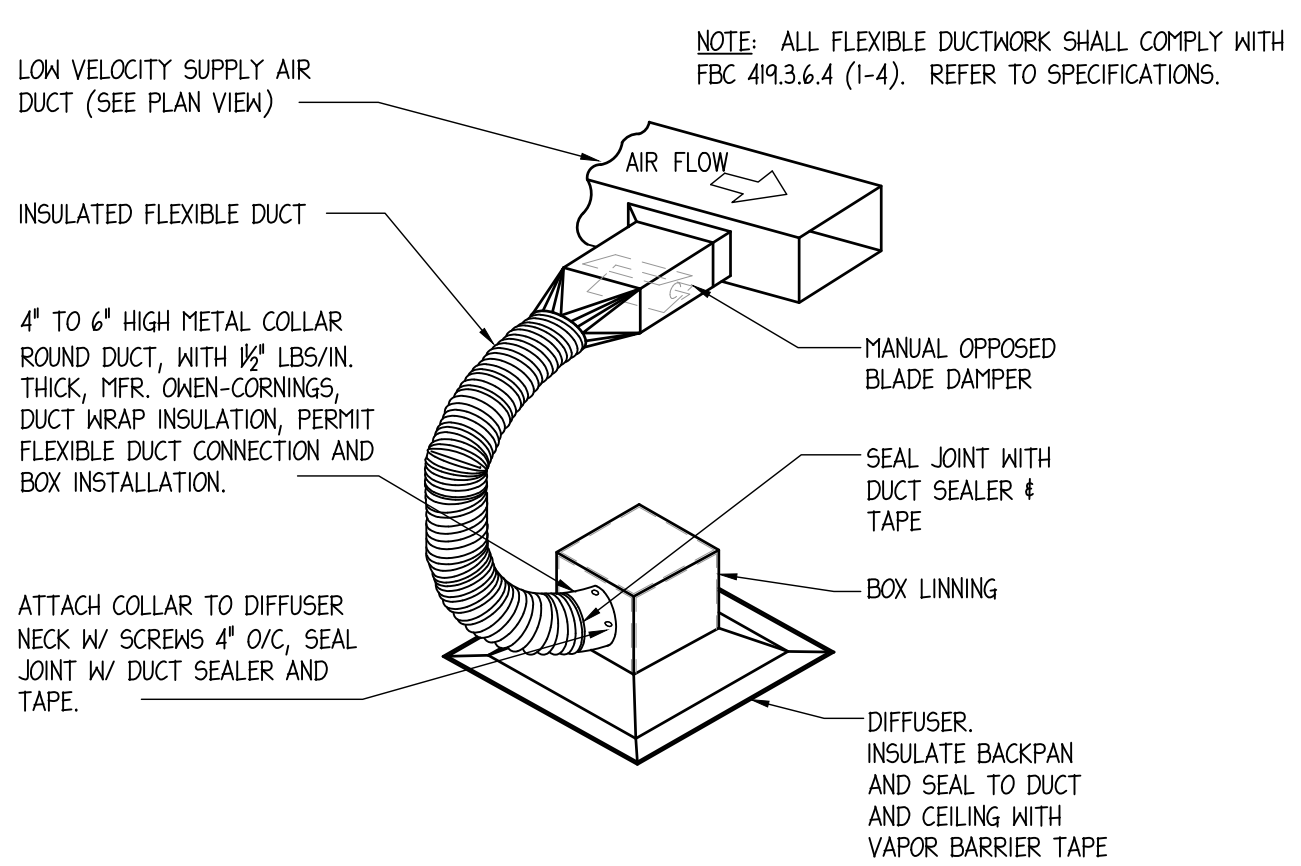
SCALE: N.T.S.



NOTE: ALL FLEXIBLE DUCTWORK SHALL COMPLY WITH FBC 419.3.6.4 (1-4). REFER TO SPECIFICATIONS.

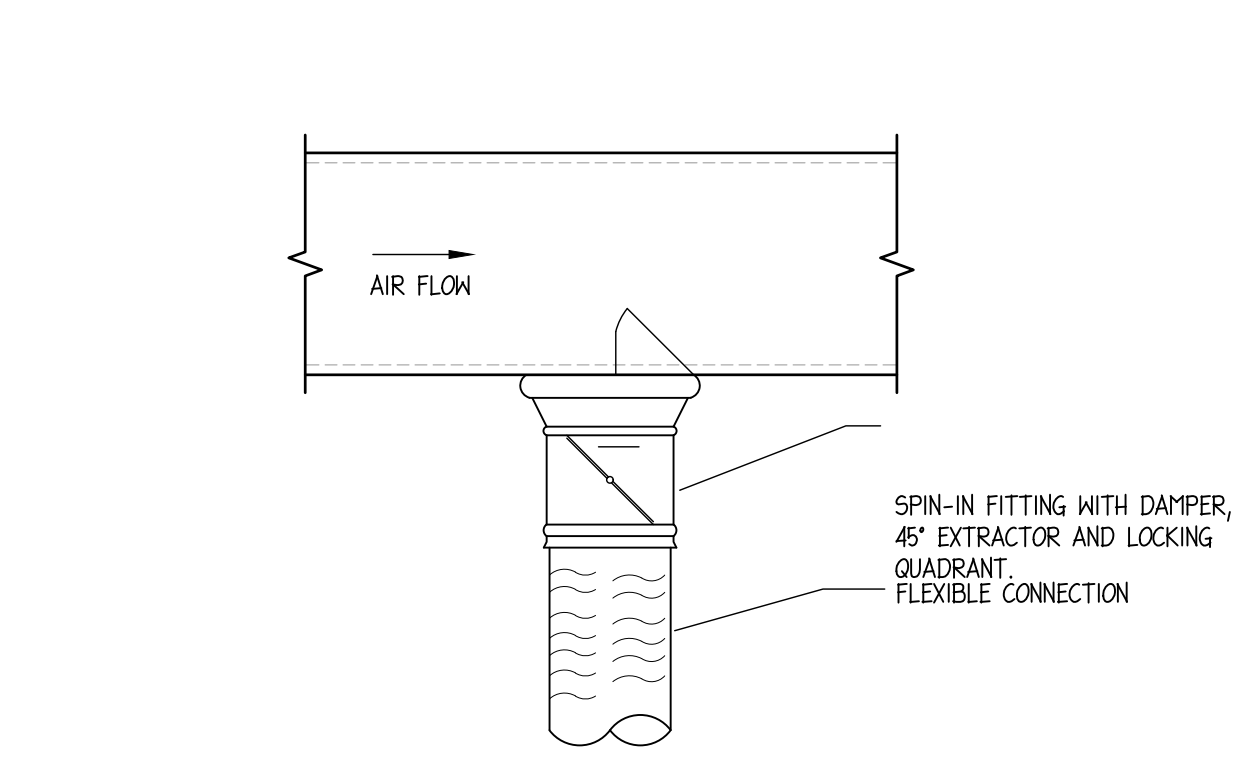
D7 CEILING DIFFUSER INSTALLATION DETAIL

SCALE: N.T.S.



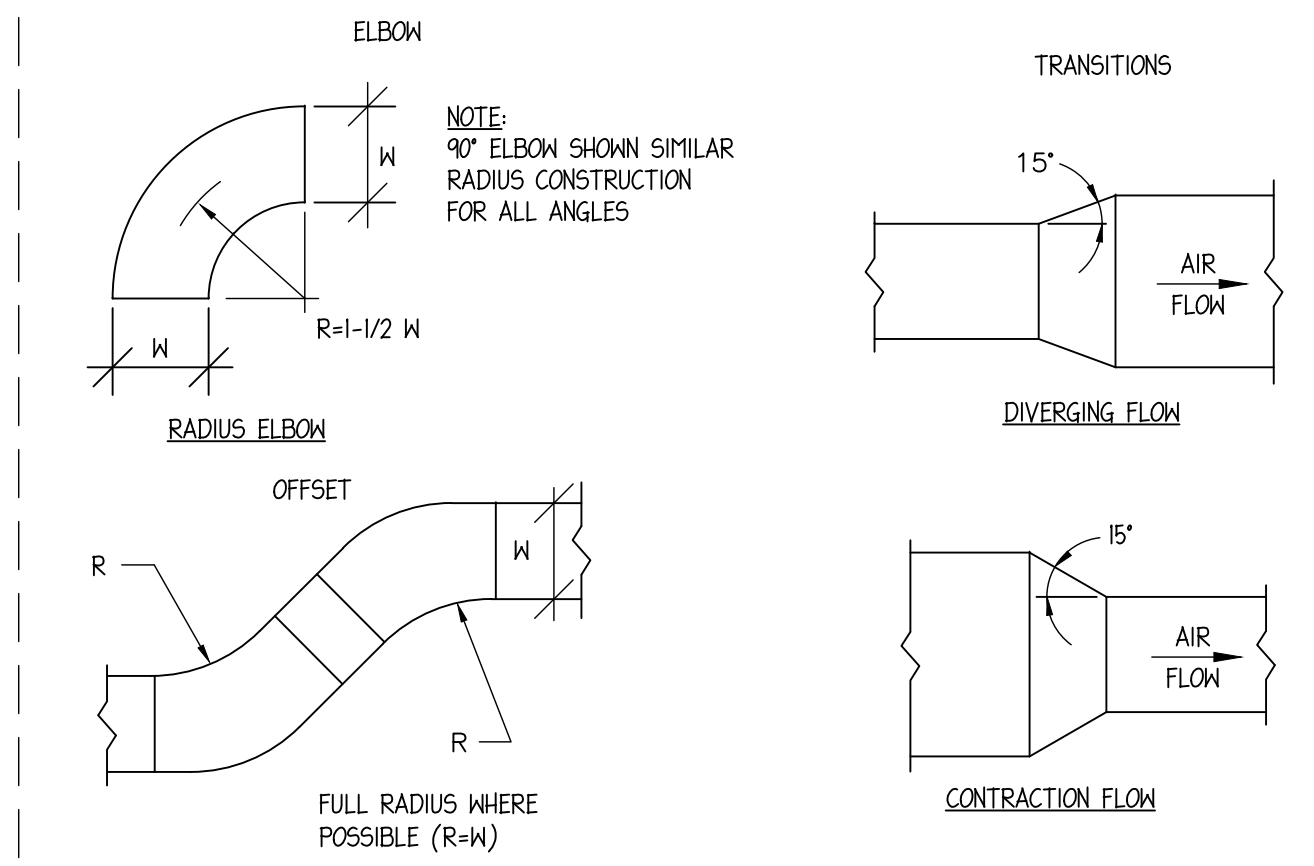
D8 FLEXIBLE DUCT CONNECTION DETAIL

SCALE: N.T.S.



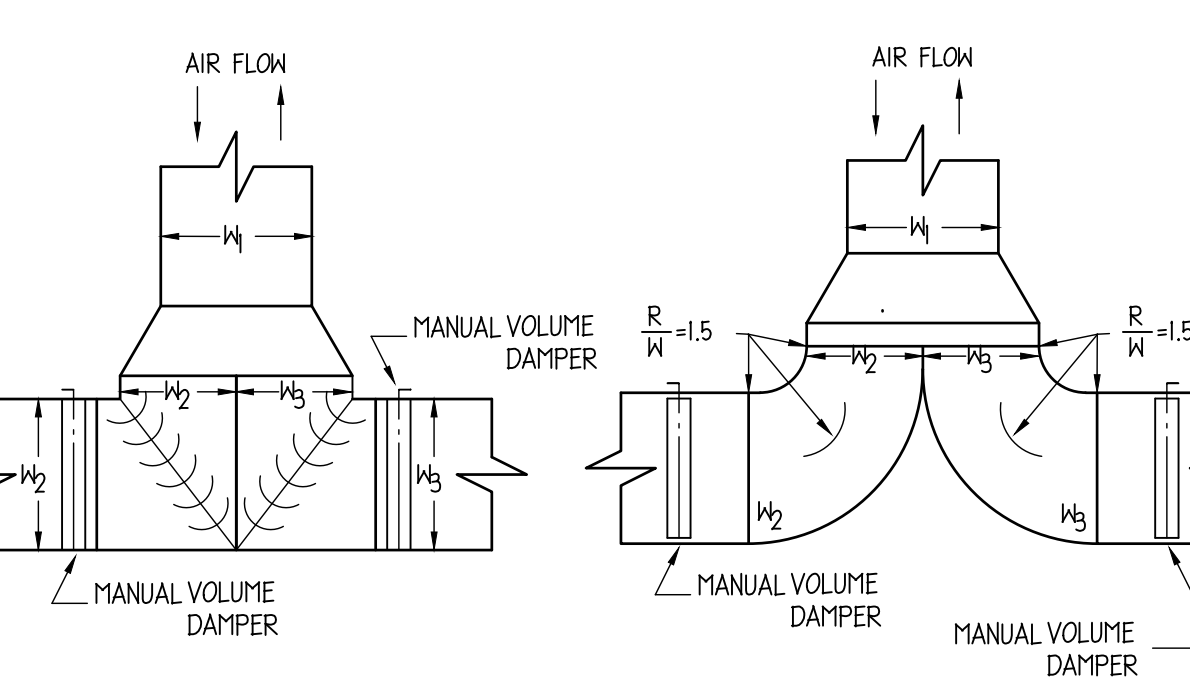
D9 ROUND DUCT TAKEOFF DETAIL

SCALE: N.T.S.



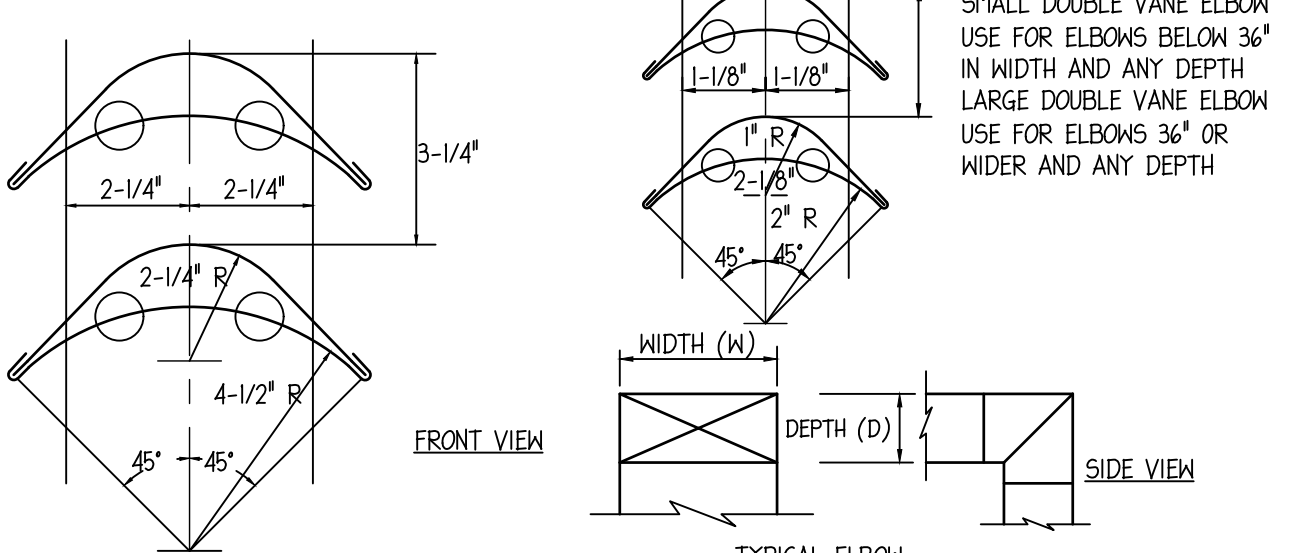
D10 RECTANGULAR TRANSITIONS, OFFSETS & ELBOWS

SCALE: N.T.S.



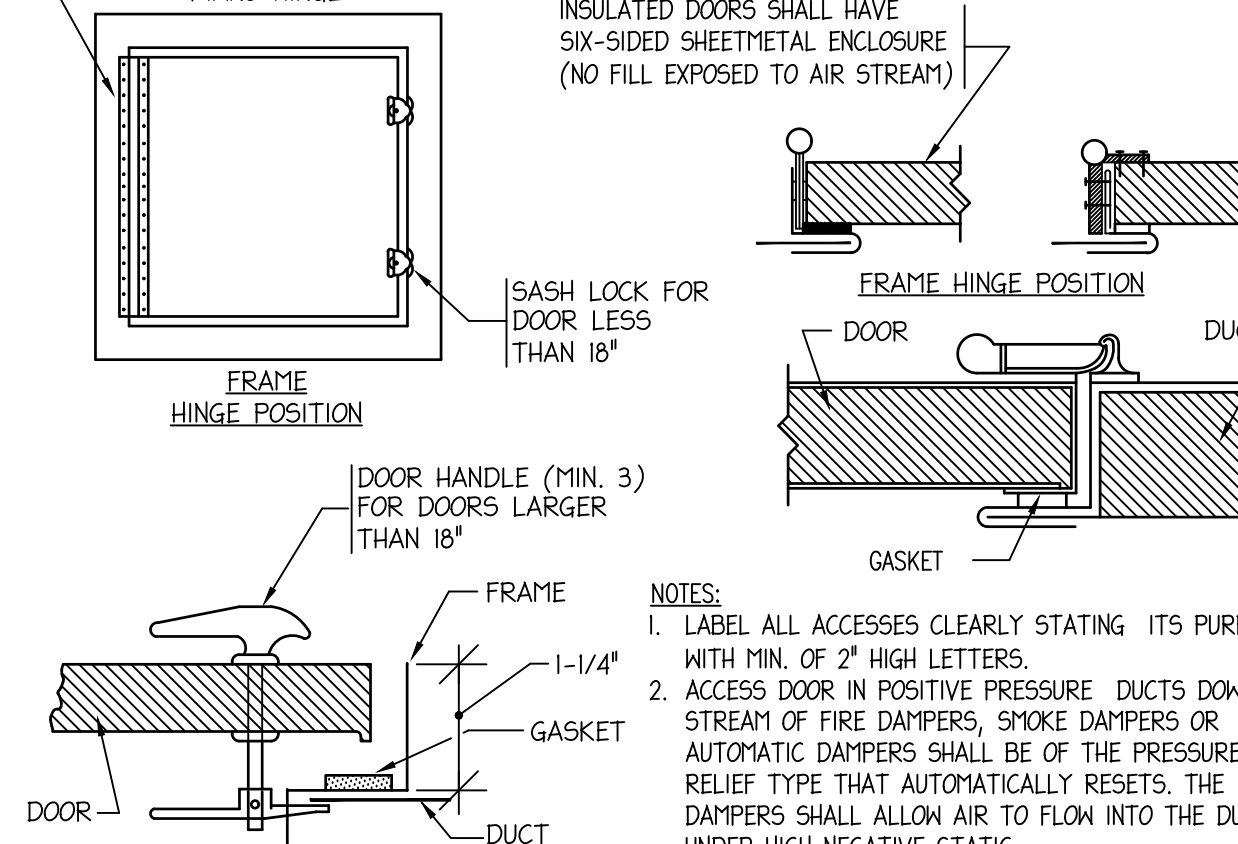
D11 DUCT TEE DETAIL

SCALE: N.T.S.



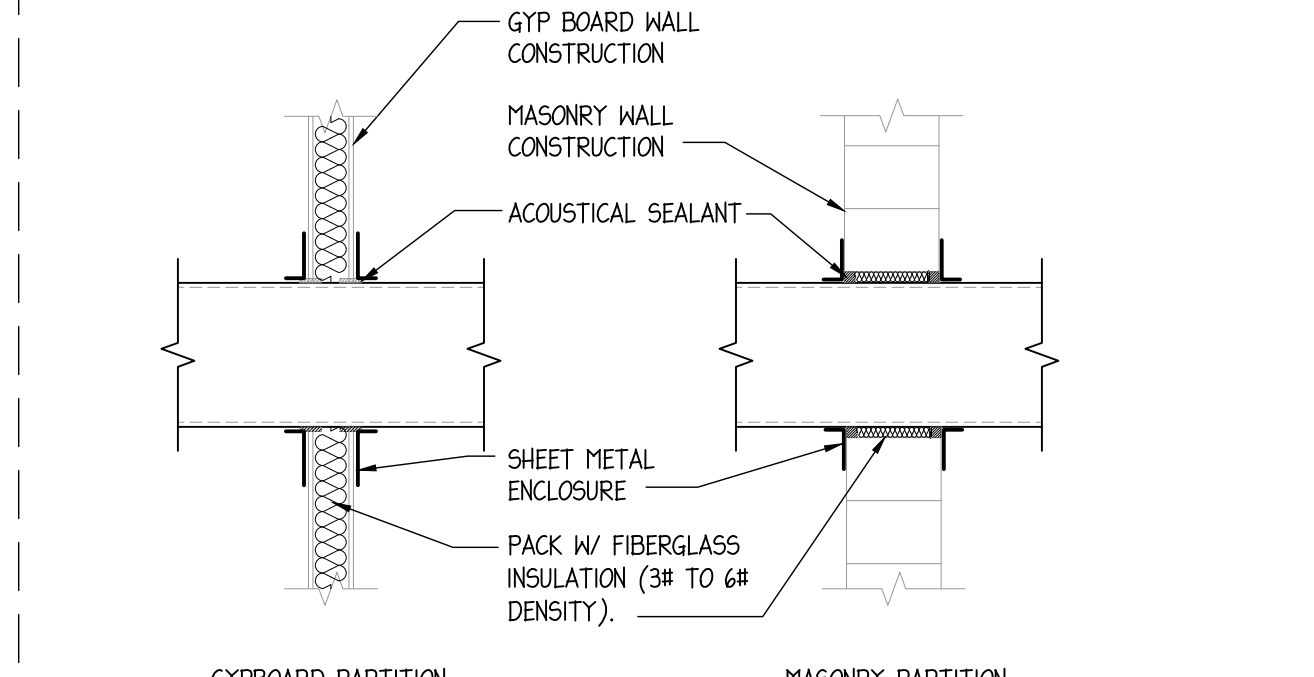
D12 ELBOWS VANE CONSTRUCTION DETAILS

SCALE: N.T.S.



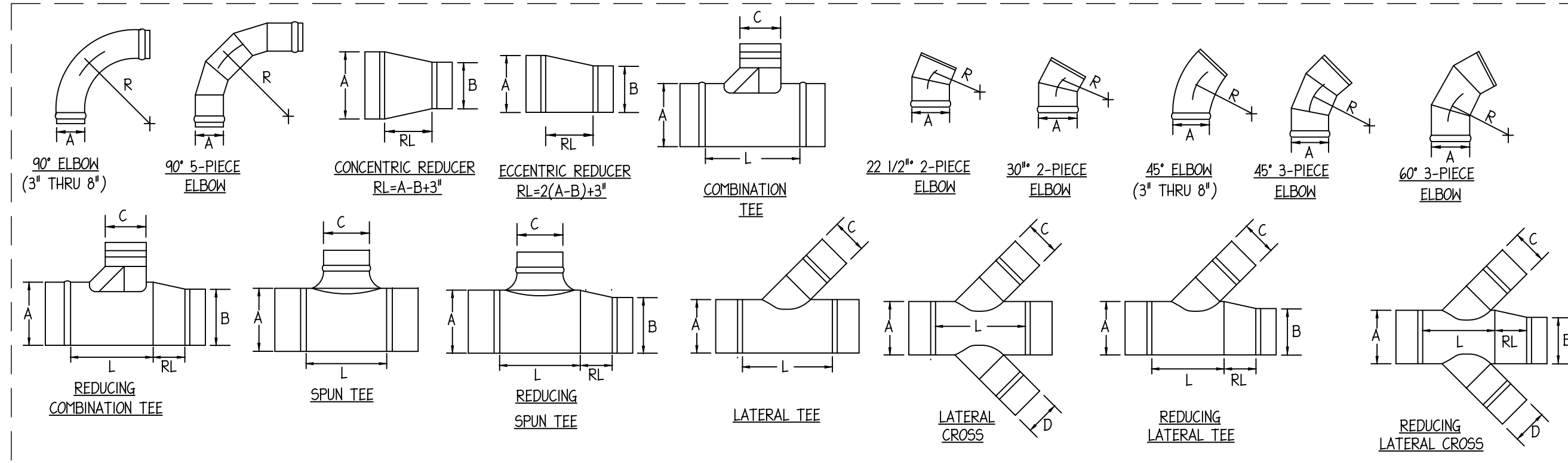
D13 DUCT ACCESS DOORS

SCALE: N.T.S.



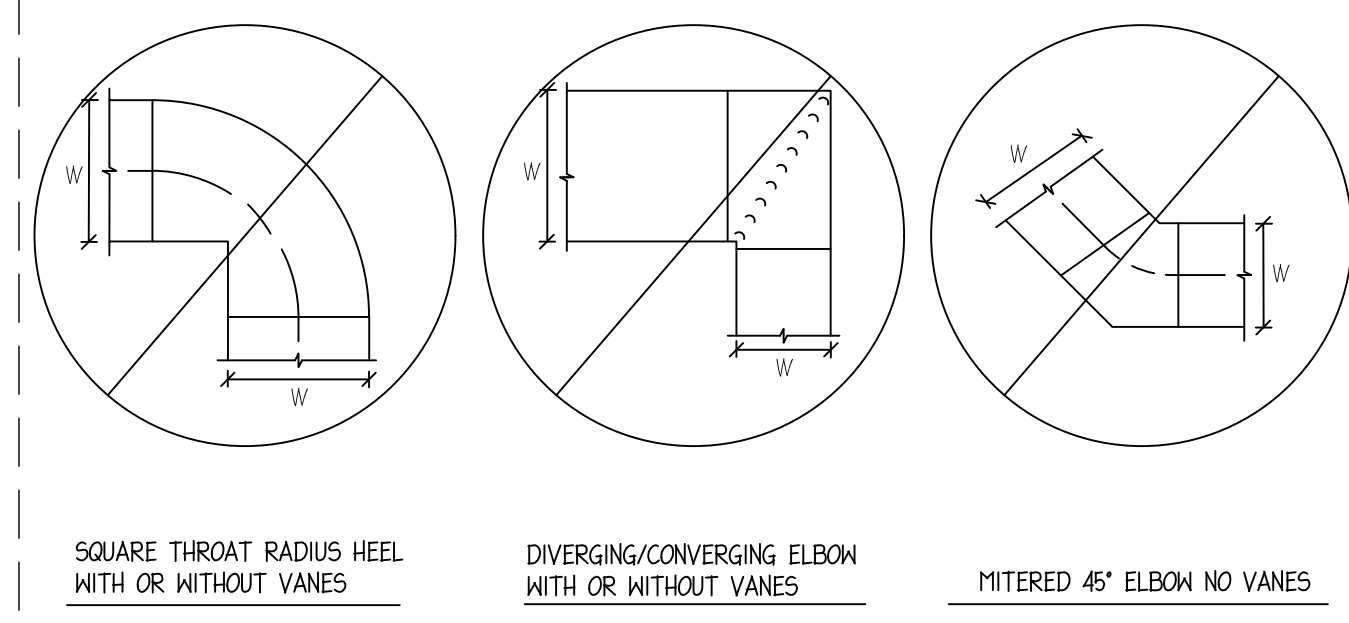
D14 DUCT PENETRATION CONSTRUCTION DETAIL

SCALE: N.T.S.

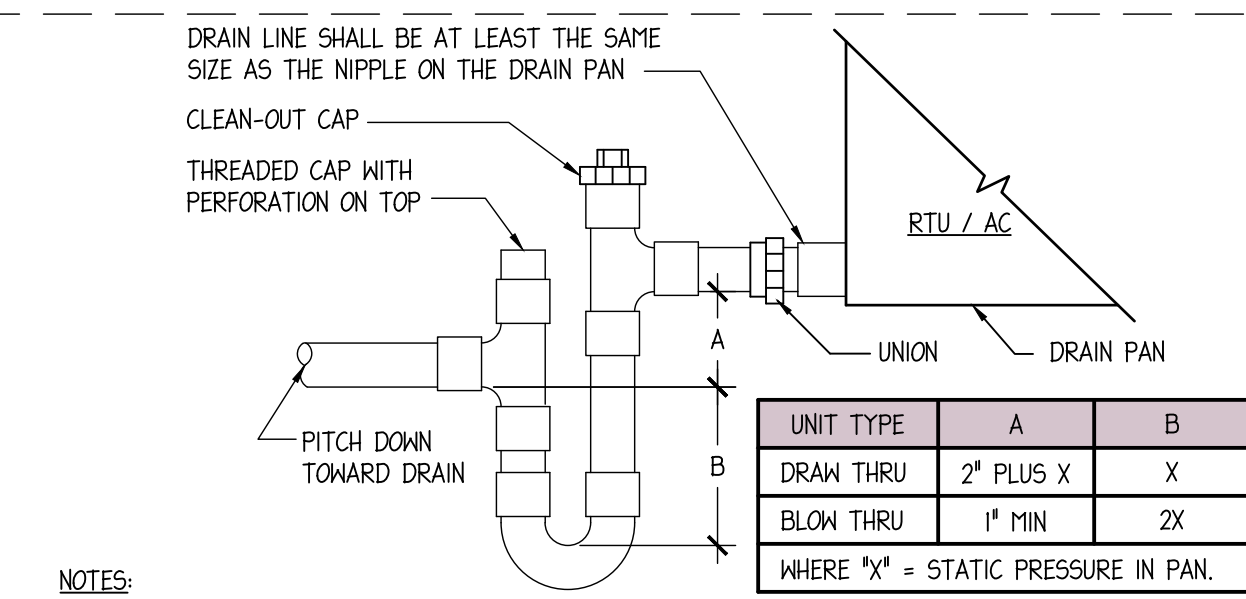


D1 ROUND FITTING DIMENSION STANDARDS
SCALE: N.T.S.

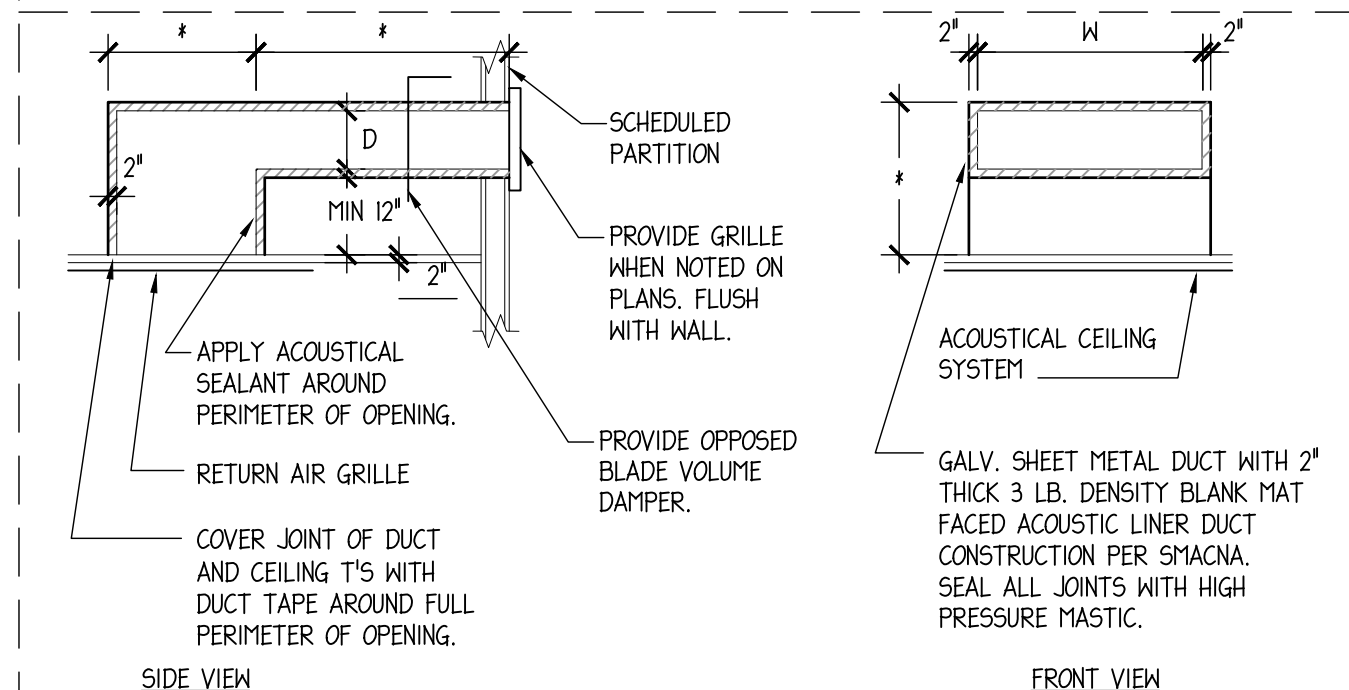
- NOTES:**
- FOR ALL ROUND DUCT FITTINGS.
 - ALL FITTINGS SEAMS TO BE CONTINUOUSLY WELDED.
 - L MIN = 2C OR 2D WHICH EVER IS GREATER.
 - R MIN. = 1.5A.



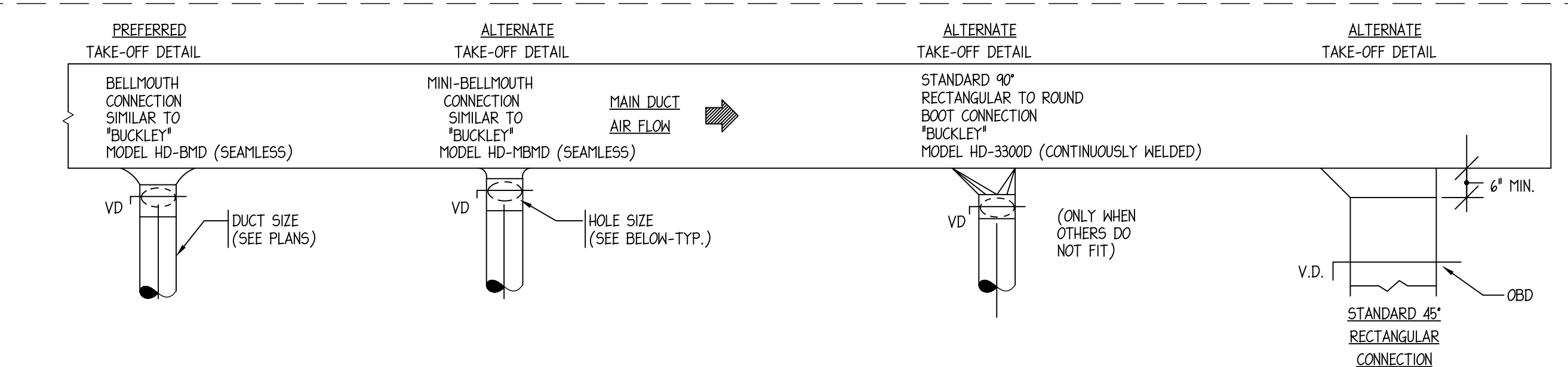
D3 NOT ALLOWED OR APPROVED DUCT ELBOW DETAILS
SCALE: N.T.S.



- NOTES:**
- FIRE RATED PACKING SHALL BE U.L. SYSTEM C-AJ-1015.
 - SLOPE PIPE @ 1/4" PER FOOT.
 - PROVIDE OVERFLOW SWITCH ON CONDENSATE LINE FOR UNIT SHUT-DOWN.
 - SECURE NEW CONDENSATE DRAIN PIPING TO FLOOR WITH COPPER BRACKETS OR CLAMPS (USE NON-FERROUS FASTENERS).
 - INSULATE ALL PIPING 1" ARMAFLEX INSULATION.
 - PROVIDE INDIRECT CONNECTION AT THE DISCHARGE.
 - COORDINATE P-TRAP SIZE WITH UNIT MANUFACTURER RECOMMENDATIONS.
- TYPICAL RTU / AC CONDENSATE DRAIN CONNECTION DETAIL**
SCALE: N.T.S.

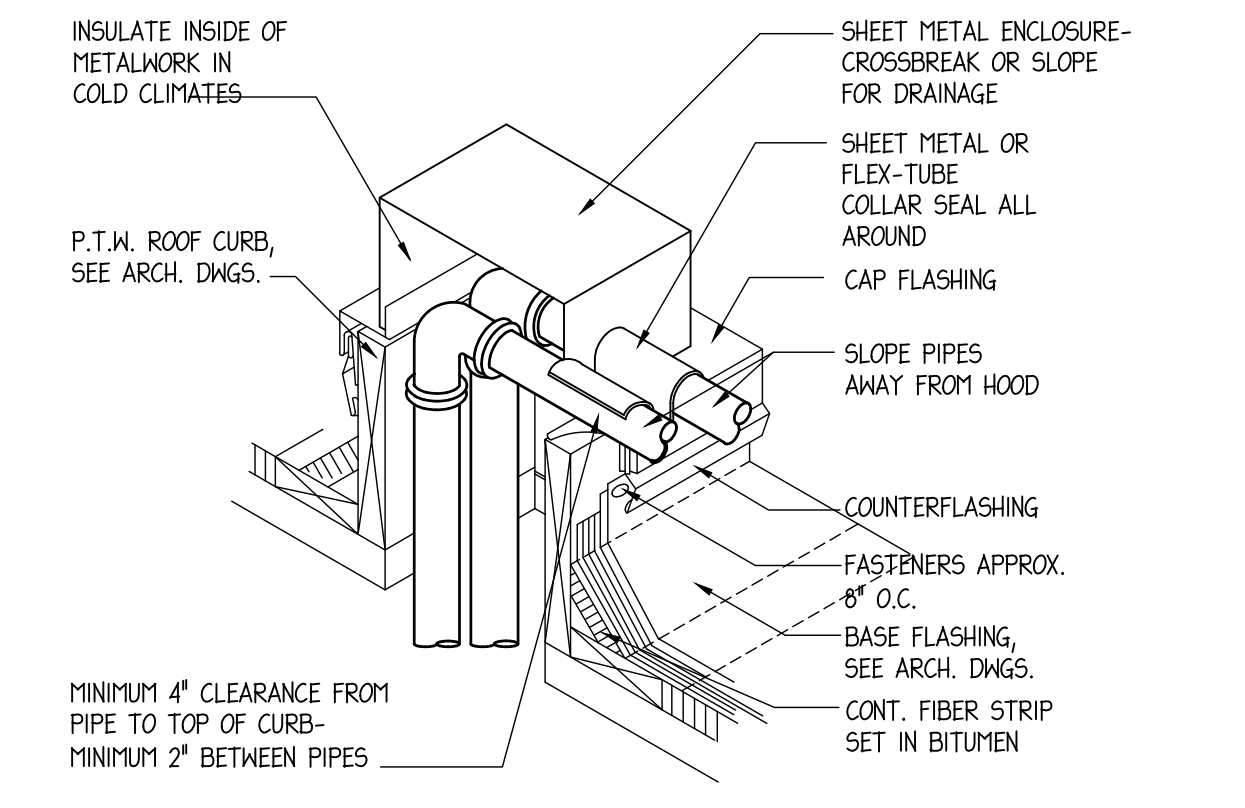


D7 RETURN AIR SOUND Baffle DETAIL
SCALE: N.T.S.

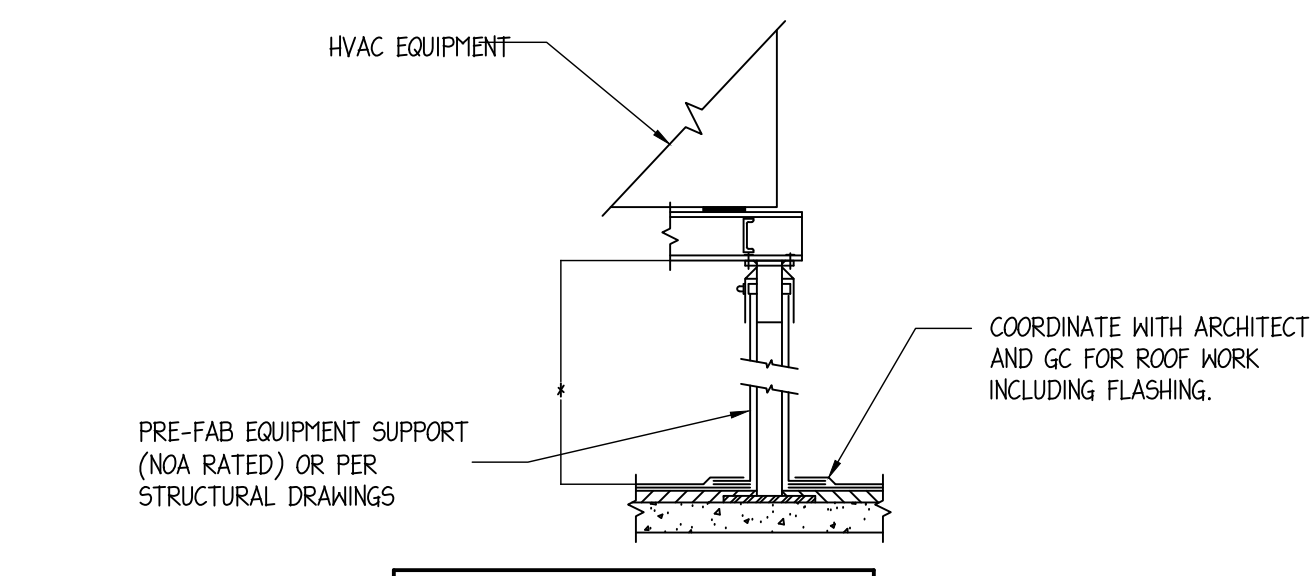


- NOTE:** ALTERNATE FITTINGS SHALL BE USED WHEN DUCT HEIGHT DOES NOT PERMIT THE USE OF THE PREFERRED FULL SIZE BELLMOUTH. SUBMIT FITTINGS FOR REVIEW BY ENGINEER PRIOR TO INSTALLATION.
- D2 DUCT TAKEOFFS**
SCALE: N.T.S.

THIS DETAIL APPLIES TO SINGLE TAKEOFFS TO DIFFUSER AS WELL AS BRANCH TAKEOFFS. IT ALSO APPLIES TO TAKEOFFS IN THE HORIZONTAL AS WELL AS VERTICAL DIRECTION.



D5 TYPICAL RTU / AC CONDENSATE DRAIN CONNECTION DETAIL
SCALE: N.T.S.



MINIMUM HEIGHT REQUIREMENTS
FBC - TABLE 1510.10

WIDTH OF EQUIPMENT #	HEIGHT
UP TO 24"	14"
25" TO 36"	18"
37" TO 48"	24"
49" TO 60"	30"
61" AND WIDER	48"

D6 TYPICAL HVAC EQUIPMENT SUPPORT
SCALE: N.T.S.