

# MECHANICAL NOTES

- CONTRACTOR SHALL VERIFY THAT ALL EQUIPMENT, AS SHOWN ON THESE DRAWINGS, WILL NOT CONFLICT WITH ANY DRAINS, SCUTTLIES, JOINTS, ETC.
- ALL ROOF MOUNTED EQUIPMENT AND PENETRATIONS SHALL BE FLASHED A MINIMUM OF 1'-2" ABOVE THE ROOF VIA ROOF CURBS AND PIPE SEALS. PROVIDE AMPLE SUPPLY OF PIPE SEALS FOR ELECTRICAL PENETRATIONS.
- ALL OUTSIDE AIR INTAKES SHALL BE A MINIMUM OF 10'-0" FROM ANY EXHAUST FAN OR PLUMBING VENT. FRESH AIR SHALL BE SUPPLIED TO EACH AIR HANDLER THROUGH EXTERIOR WALL DUCT SUPPLIED WITH A CONTROL DAMPER TO SHUT WHEN SYSTEM IS NOT RUNNING.
- MECHANICAL SYMBOLS SHOWN ON THESE DRAWINGS ARE DRAWN DIAGRAMMATICALLY. CONTRACTOR TO VERIFY WITH OWNER LOCATIONS OF VENTS, DAMPERS, REGISTERS, ETC. REFER TO REFLECTED CEILING PLAN FOR FINAL GRILLE AND DIFFUSER LOCATIONS AND COORDINATE AS REQUIRED.
- REFER TO STRUCTURAL DRAWINGS TO COORDINATE (LOCATIONS) & MOUNTING OF MECHANICAL EQUIPMENT.
- THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ADMINISTERING ALL WARRANTIES ON EQUIPMENT, WHICH HE INSTALLS. THIS INCLUDES ALL CONDENSERS, REFRIGERANT LINES, AND OTHER ITEMS FURNISHED BY OTHERS AS WELL AS THOSE FURNISHED BY HIM.
- CONDENSATE & OVERFLOW DRAIN LINES SHALL BE PVC SCH 40 AND SHALL BE INSTALLED COMPLETELY SEPARATE.
- PROVIDE VIBRATION ISOLATION DEVICES AND FLEXIBLE CONNECTIONS TO ALL MOVING MACHINERY.
- DUCTWORK TO BE GALVANIZED SHEET METAL PER SMACNA STANDARDS. LINE WITH NEOPRENE COATED 1.0" x 1.5 POUNDS PER CUBIC FOOT DUCT INSULATION.
- ROUND FLEXIBLE DUCT TO BE UL-181, CLASS I, AIR DUCT MATERIALS AND BE INSULATED WITH A MINIMUM "R" VALUE OF 6.
- ALL DUCT DIMENSIONS SHOWN ON DRAWINGS ARE CLEAR INSIDE DIMENSIONS. DUCTS SHALL BE SIZED TO LIMIT MAIN DUCTS TO 1000 CFM & SECONDARY DUCTS TO 600 CFM.
- ALL SUPPLY AIR VENTS SHALL BE EQUIPPED WITH AIR CONTROL DAMPERS. TO THE OTHER CONTRACTORS AND TRADES AS REQUIRED FOR COMPLETION AND COORDINATION OF THE COMPLETE PROJECT.
- THIS CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR AND ALL OTHER TRADES FOR ALL REQUIRED OPENINGS IN FOUNDATIONS, FLOORS, WALLS AND ROOF. CUTTING AND PATCHING SHALL BE HELD TO A MINIMUM.
- TEMP. SENSORS SHALL BE LOCATED GENERALLY AS SHOWN BUT THEIR EXACT LOCATION SHALL BE FIELD COORDINATED TO AVOID INTERFERENCE WITH WALL MOUNTED ITEMS. MOUNT SENSORS IN COMPLIANCE WITH ADA AG CODE SECTION 4.27. ALL THERMOSTATS SHALL BE AUTOMATIC CHANGEOVER WITH HEAT SWITCH. FINAL LOCATION OF TEMPERATURE CONTROLS TO BE COORDINATED WITH OWNER AT JOB SITE.
- ALL AIR HANDLING SYSTEMS TO BE BALANCED TO ASSURE PROPER AIR FLOWS PER PLANS.
- CONTRACTOR TO INSULATE BACKSIDE OF ALL DIFFUSERS WITH 2" MINIMUM OWENS-CORNING FIBERGLASS ALL SERVICE FACED DUCT W/64.
- CONTRACTOR TO FABRICATE ALL DUCTWORK. TRANSITIONS AS REQUIRED TO ATTACH DUCTWORK TO HVAC EQUIPMENT AND AIR DEVICES.
- ALL ROUND DUCT AND FLEX DUCT RUN OUTS SHALL BE THE SAME DIAMETER AS DIFFUSER NECK UNLESS NOTED OTHERWISE.
- PROVIDE RECTANGULAR TO ROUND TRANSITIONS FOR ALL DIFFUSERS AS NEEDED.
- VERIFY EXISTING CONDITIONS IN FIELD PRIOR TO BEGINNING WORK.
- PROVIDE AND INSTALL WATER PROOF GRILLE VENT IN PROPER ROOF LOCATION FOR PLUMBING FIXTURE EXHAUST.
- COORDINATE CEILING AIR DEVICE LOCATIONS WITH LIGHTING PLAN AND ARCHITECT'S REFLECTED CEILING PLAN.
- RETURN DUCTWORK SHALL BE LINED WITH 1-INCH ACOUSTICAL INSULATION.
- IN ALL SYSTEMS OVER 2,000 CFM AND LESS THAN 15,000 CFM, SMOKE DETECTORS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 90A IN THE SUPPLY DUCT DOWNSTREAM OF THE AIR HANDLING UNIT AND ALL FILTERS, TO AUTOMATICALLY STOP THE FAN, IN ALL SYSTEMS UNDER 2,000 CFM PROVIDE U.L. LISTED 125 F FRESHOT IN RETURN AIR OF EACH SYSTEM TO SHUT DOWN FAN IN THE EVENT OF FIRE.
- PROVIDE AND INSTALL SMOKE DETECTORS AS APPROVED BY LOCAL AHJ'S. PLACE NEAR R/A AND S/A OPENINGS OF AHU AND PROVIDE, WITH ACCESS PANEL, WIRING BY ELECTRICAL CONTRACTOR.
- PROVIDE U.L. RATED FIRE DAMPERS WHERE REQUIRED AT ALL DUCT PENETRATIONS OF FIRE-RATED ASSEMBLIES AND WHERE REQUIRED BY CODE, INCLUDING OUTSIDE AIR INTAKES.
- REFRIGERANT LINES SHALL BE SIZED BY UNIT MANUFACTURER AND INSTALLED ACCORDING TO MANUFACTURER'S INSTRUCTIONS.
- INSTALL FIRE DAMPER WHERE S.A. AND R.A. DUCTS PENETRATE 1 HR. CONSTRUCTION.
- ALL ELECTRICAL, MECHANICAL AND PLUMBING PENETRATING FIRE PARTITIONS SHALL BE FIRE CAULKED. (PENETRATIONS THROUGH RATED CONSTRUCTION SHALL BE SEALED WITH A MATERIAL CAPABLE OF PREVENTING THE PASSAGE OF FLAMES AND HOT GASES WHEN TESTED IN ACCORDANCE WITH ASTM E814.)

- PROVIDE FACTORY MATED FILTERS, BACKFAN DAMPERS, BIRDSCREENS AND SMOKE STATE SPEED CONTROLS WITH THESE FANS.
- INSURE ROOF AREA IS FREE FOR THE TYPE ROOF BEING PROVIDED.
- FURNISHED FAN DATA TO MECHANICAL CONTRACTOR

TOTAL	ER	VOLTAGE	MCA	CKT BRKRS	COMMENTS
BIG BOX RTU (15 TON) NEW AC #1	12.0	240V.3Ø	66.3	P6 - 1,3,5	NOTE: ALL AC TO BE SPILT. EQUIP WITH HVAC (FRAME OR COUPL)

TOTAL	O.A.	HEAT (MM)	VOLTAGE	MCA	CKT BRKRS	COMMENTS
BIG BOX RTU (15 TON) NEW AHU #1	6,000	1182	23,92	240V.3Ø	101.5	NOTE: ALL AC TO BE SPILT. EQUIP WITH HVAC (FRAME OR COUPL) THIS SYSTEM IS REQUIRED TO CONTROL 2 EXHAUST FANS.

MARK	AREA SERVED	CFM	T.S.P. IN WG	MOTOR DATA	TYPE	BASED ON	REMARKS
EF-1	AUDITORIUM	600	0.25	1/10	50	3ØV/60	ACME FPN 100

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EF-1	600	0.25	1/10	50	3ØV/60	ACME FPN 100

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EF-1	600	0.25	1/10	50	3ØV/60	ACME FPN 100

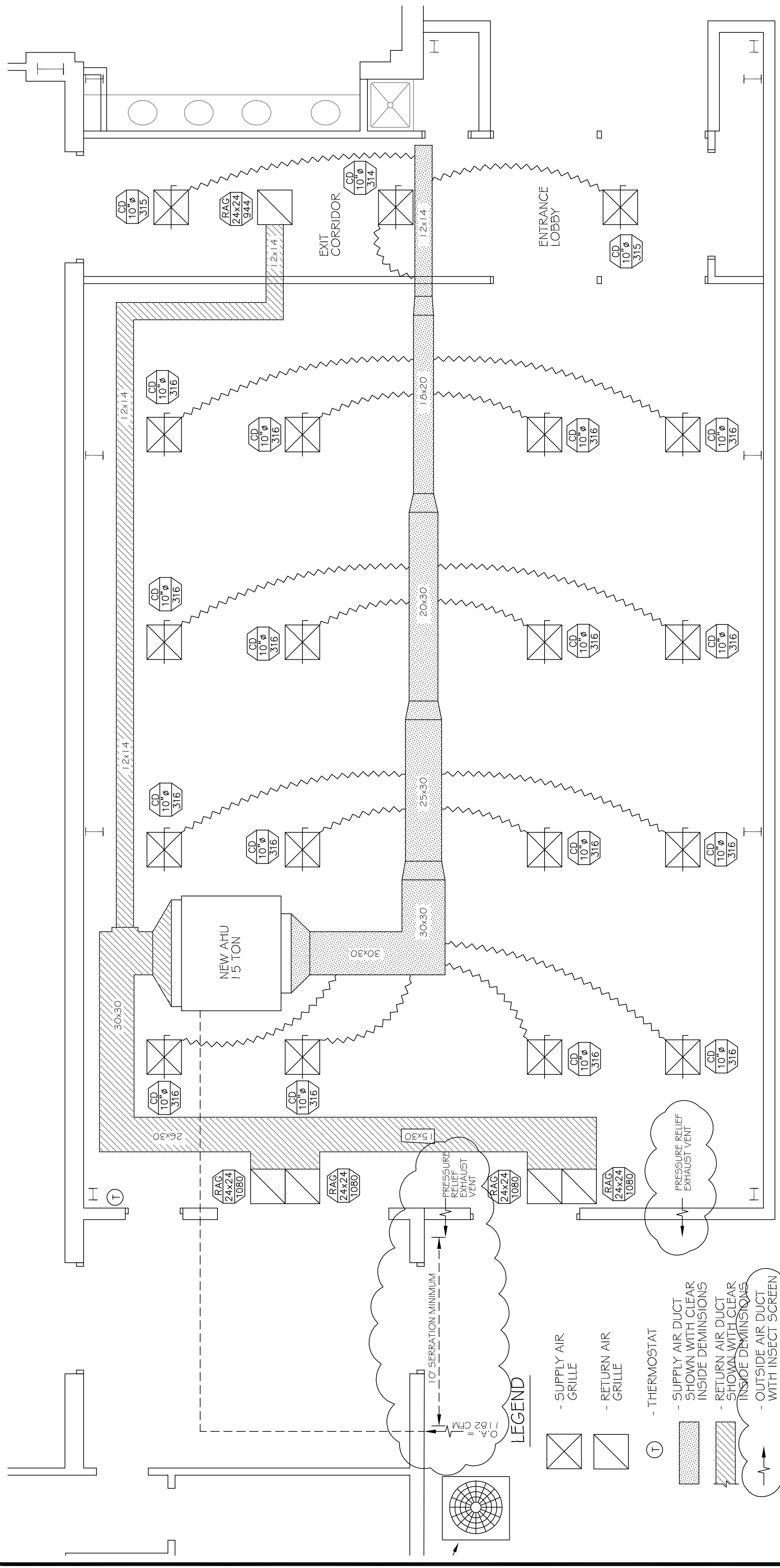
MARK	CFM	IN WG	T.S.P.	TYPE	BASED ON	REMARKS
EF-1	600	0.25	1/10	50	3ØV/60	ACME FPN 100

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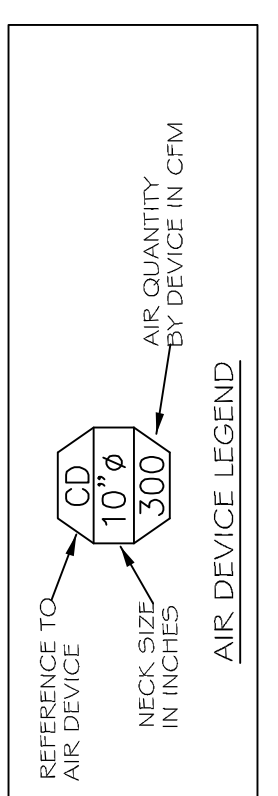
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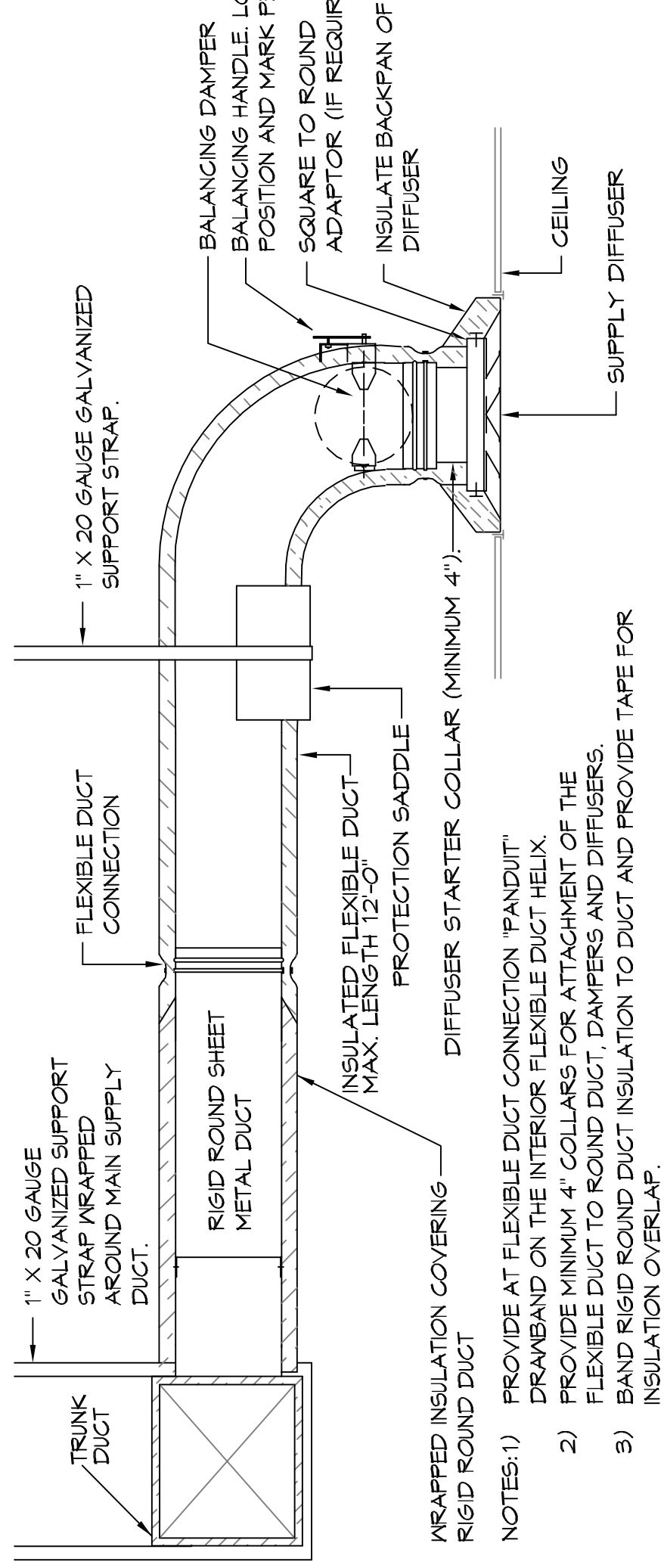
## MECHANICAL PLAN

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

MARK	DESCRIPTION	BASIS OF DESIGN	REMARKS
CD	CEILING DIFFUSER	TITUS TMS-AA	FRAME STYLE 2 FOR 24"x24" LAY-IN MODULE, OFF WHITE FINISH, ALL ALUMINUM CONST. SOUND NECK & SQUARE FACE. PROVIDE WITH OPPOSED BLADE DAMPER. NECK SIZE AND AIR QUANTITY BY DEVICE IN CFM
ER	EXHAUST REGISTER	TITUS 50 FF	FRAME STYLE 1 FOR SURFACE MOUNT, OFF WHITE FINISH, ALL ALUMINUM CONST. SIZE AND CFM AS INDICATED.
RAG	RETURN AIR GRILLE	TITUS 50 FF	FRAME STYLE 3 FOR 24"x24" LAY-IN MODULE, OFF WHITE FINISH, ALL ALUMINUM CONST. SIZE AND CFM AS INDICATED.



THROW PATTERNS FOR CEILING DIFFUSERS ARE AS SHOWN UNLESS OTHERWISE INDICATED  
 PROVIDE PLASTER FRAMES FOR LAY-IN DEVICES IN GYP. BOARD CEILINGS  
 PROVIDE FILTER FOR ALL EXHAUST REGISTERS AND RETURN AIR GRILLES.

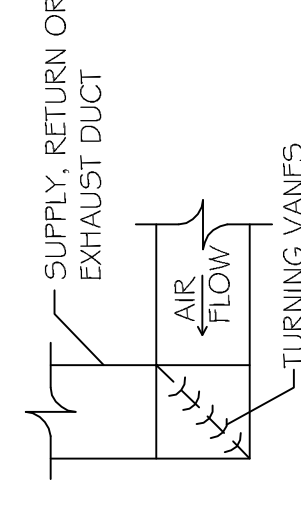


TYPICAL HORIZONTAL AHU DETAIL  
SCALE: N.T.S.

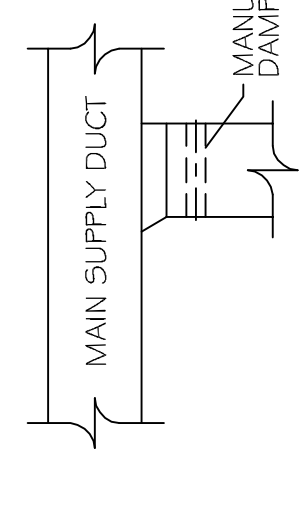
DUCT SPLITTER DETAIL  
N.T.S.

DIFFUSER CONNECTION DETAIL-FLEX DUCT  
N.T.S.

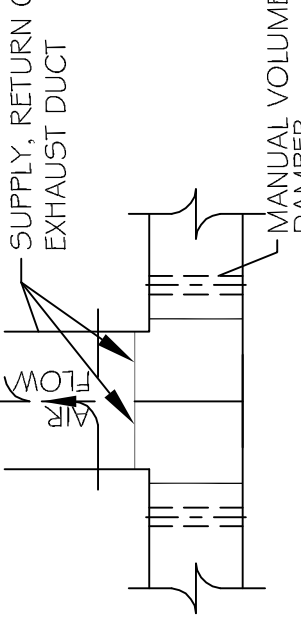
CONDENSING MOUNTING DETAIL  
N.T.S.



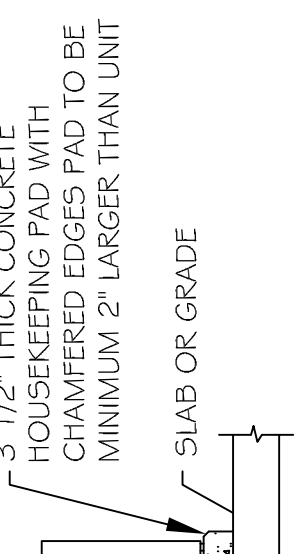
SQUARE ELBOW DETAIL  
N.T.S.



SUPPLY DUCT TAKE-OFF DETAIL  
N.T.S.



SUPPLY, RETURN OR EXHAUST DUCT  
N.T.S.



CONDENSING MOUNTING DETAIL  
N.T.S.

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BY	DATE	REVISIONS
JTL	9/22/14	
CKD	4/18/16	

DRAWN: J.T.L.L.  
 CHECKED: C.K.D.  
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 SCALE: NOTED  
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 SHEET: M-1  
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