

**EXISTING HVAC DRAWING  
PROVIDED FOR REFERENCE ONLY  
VERIFY IN FIELD--THE ARCHITECTS  
AND ENGINEERS TAKE NO  
RESPONSIBILITY FOR THE  
ACCURACY OF THESE DRAWINGS  
ADJUST RTU TO NEW FRESH AIR  
REQUIREMENTS**

DRAWINGS AND SPECIFICATIONS ARE TO BE CONSIDERED AS SUPPLEMENTING EACH OTHER. WORK SPECIFIED BUT NOT SHOWN ON DRAWINGS, OR SHOWN ON DRAWINGS BUT NOT SPECIFIED, SHALL BE PERFORMED OR FURNISHED AS THOUGH MENTIONED IN BOTH SPECIFICATIONS AND DRAWINGS. IF NOT OTHERWISE DIRECTED, INSTALLATION OF ALL SYSTEMS AND EQUIPMENT SHALL BE IN ACCORDANCE WITH APPLICABLE CODES AND IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. WHERE WORK DESCRIBED IN THE SPECIFICATIONS IS IN CONFLICT WITH THE WORK SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL SUPPLY THE GREATER QUANTITY, QUALITY AND COST VIA THE BID AND CONTACT THE ENGINEER FOR CLARIFICATION ON DIRECTION PRIOR TO INSTALLATION.

PRIOR TO BID, THE CONTRACTOR SHALL REVIEW THE MECHANICAL, ELECTRICAL AND KITCHEN EQUIPMENT DRAWINGS. THE CONTRACTOR SHALL INCLUDE IN HIS BID ALL RELEVANT WORK IN THE ENTIRE SET OF DOCUMENTS AND REPORT ALL DISCREPANCIES BETWEEN THESE DRAWINGS TO THE ENGINEER PRIOR TO BIDDING FOR CLARIFICATION. IF DISCREPANCIES REMAIN UNRESOLVED DUE TO A SHORT TIME FRAME, THE CONTRACTOR SHALL INCLUDE THE MOST WORK AND THE HIGHER COSTS IN THE BID. SOLUTIONS TO UNREPORTED DISCREPANCIES WILL BE DETERMINED BY THE ARCHITECT/ENGINEER, WITH NO ADDITIONAL COMPENSATION DUE TO THE CONTRACTOR.

**ELECTRIC WALL UNIT HEATER SCHEDULE**

MARK	MFG/MODEL	HEATING CAPACITY			MCA	ELECTRICAL		ACCESSORIES
		KW	MBH	14.4		VOLT / PH / HZ		
EWH-1	BROAN 198	3	10.24	14.4	208V / 1/ 60	1		

ACCESSORIES: 1. INTEGRAL THERMOSTAT

**AIR DISTRIBUTION DEVICES SCHEDULE**

MARK	DESCRIPTION	DESCRIPTION	MFG./MODEL No.	NOTES
A	SUPPLY	24"x24" LOUVERED FACE, ADJUSTABLE, LAY-IN, ROUND NECK SIZE AS SHOWN ON PLANS.	TITUS MODEL TMSA (* TMSA-AA) ALTERNATE: KRUEGER 1400A (*51400A)	1, 2
B	SUPPLY	12"x12" LOUVERED FACE, SURFACE MOUNT, ROUND NECK SIZE AS SHOWN ON PLANS.	TITUS MODEL TMS (* TMS-AA) ALTERNATE: KRUEGER 1400 (* 51400)	1
C	RETURN	24" x 24" FACE, LAY-IN, FILTER FRAME 20"x20" FILTER SPACE	TITUS MODEL 350RLF1 (* 350FF1) ALTERNATE: KRUEGER S580H-5FF (* S580H-5FF)	1
D	EXHAUST	24" x 12" FACE, LAY-IN	TITUS MODEL 350RL (* 350FL) ALTERNATE: KRUEGER S580H (* S580H-5F)	1

NOTES:  
1. DIFFUSER MODEL NUMBERS ENCLOSED IN PARENTHESIS i.e. (\* XXXX) ARE FOR ALUMINUM DIFFUSERS. COORDINATE THE USE OF ALUMINUM WITH OWNER.  
2. ADJUST VANES ON KITCHEN ARE DIFFUSERS FOR FULL VERTICAL THROW .

**EXHAUST FAN SCHEDULE**

EQUIP NO	MANUF.	MODEL NO	TYPE	CFM	EXT SP	HP (WATTS)	RPM	TIP SPEED	DRIVE	VOLT/ PHASE	ACCESSORIES
EF-1	BROAN	L100	CEILING	100	0.125	(130)	-	-	DIRECT	115/1/60	1, 2
EF-2	GREENHECK	G-095-VG	DOWNBLAST	500	0.5	1/6	1532	-	DIRECT	115/1/60	2, 3, 4

**ABANDON**

ACCESSORIES:  
1. FACTORY INSTALLED GRAVITY BACKDRAFT DAMPER.  
2. ACCEPTED ALTERNATE MANUFACTURERS: GREENHECK, PENN VENTILATOR AND ACME. ALTERNATE MANUFACTURERS MATCH MATERIALS AND PERFORMANCE ABOVE LISTED EQUIPMENT.  
3. PROVIDE WEATHERPROOF DISCONNECT AND FACTORY SUPPLIED ROOF CURB - SEE A2.02 FOR ADDITIONAL INFORMATION  
4. FACTORY PROVIDED MOTORZED BACKDRAFT DAMPER

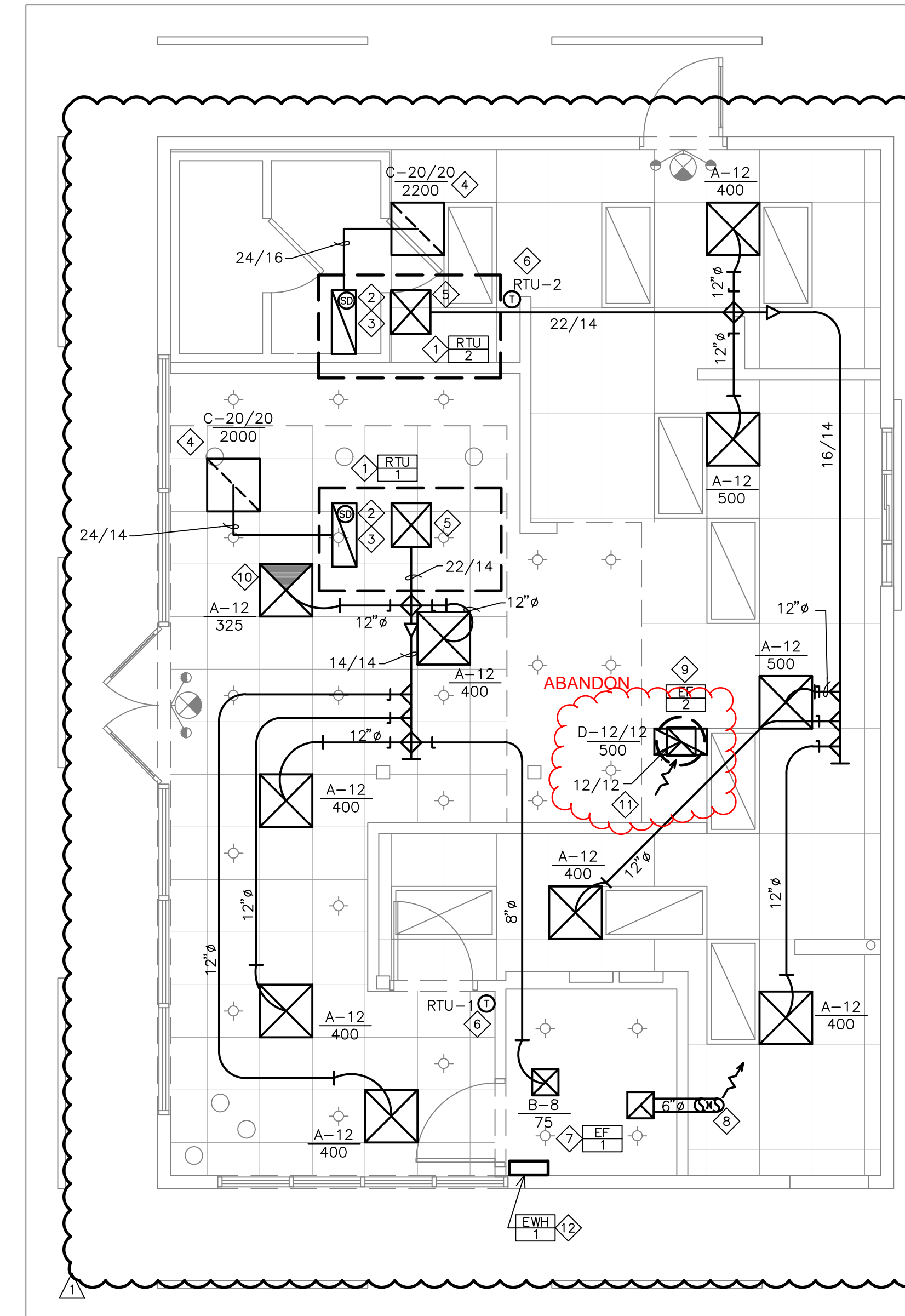
**ROOFTOP UNIT SCHEDULE**

MARK	MANUFACTURER	MODEL	AIRFLOW (CFM)	OUTSIDE AIR (CFM) 450	AMBIENT (OAT)	EXT. SP (IN. W.C.)	DX COOLING COIL			GAS HEAT			ELECTRICAL			APPROX WEIGHT	REMARKS		
							EAT (DB/WB)	TOTAL (MBH)	SENSIBLE (MBH)	FUEL	INPUT (MBH)	OUTPUT (MBH)	AFUE	V, PH, HZ	MCA (AMPS)			MOCIP	SEER
RTU-1	LENNOX HIGH EFFICIENCY	LGH060H4E	2000	375	100	0.5	79.9/60.2	52.0	52.0	NATURAL GAS	150	122	80%	208/230-1-60 1 HP	48.0	70	17.1	900	1-11
RTU-2	LENNOX HIGH EFFICIENCY	LGH060H4E	2200	300	100	0.5	76.3/60.7	53.5	48.3	NATURAL GAS	150	122	80%	208/230-1-60 1 HP	48.0	70	17.1	900	1-11

NOTES:  
1. YORK & TRANE ARE APPROVED ALTERNATES. CONTACT--SONIC NATIONAL PRICING, OR LENNOX CORP. (SONIC ACCT. ADMINISTRATOR 800-367-6285), OR YORK INTERNATIONAL CORP. (WALT JACOB 405-419-6351) TO DETERMINE WHICH UNIT IS MOST APPROPRIATE FOR YOUR USE. MAKE SURE YOU ASK FOR SONIC'S NEGOTIATED PRICE.  
2. PROVIDE PROGRAMMABLE THERMOSTATS WITH HEAT/COOL T'STAT WITH NIGHT SETBACK FEATURE. T'STAT SHALL HAVE READILY ACCESSIBLE MANUAL OVERRIDE THAT WILL RETURN TO THE PRESETBACK OR SHUTDOWN SCHEDULE WITHOUT REPROGRAMMING. PROVIDE SUBBASE FOR 2 STAGE HEATING AND 2 STAGE COOLING. PROVIDE LOCKING LEXAN PLASTIC COVER.  
3. PROVIDE WITH ECONOMIZER AND BAROMETRIC RELIEF. PROVIDE WITH FAULT DETECTION AND DIAGNOSTIC CAPABILITY.  
4. RTU HEIGHTS VARY ACCORDING TO MODEL. CONSULT LOCAL OFFICIALS TO DETERMINE IF ROOFTOP EQUIPMENT SCREENING CONSTRAINTS EXIST, AND CONTACT RTU MANUFACTURERS TO DETERMINE APPROPRIATE MODEL TO MEET YOUR NEEDS.  
5. RTU'S SHOWN (REF. A2.03) ON STANDARD 14" CURB. TO REDUCE HT. OF RTU, LOWER CURB MAY BE USED WHERE ALLOWABLE BY LOCAL CODE. CONSULT YOUR RTU MANUFACTURER FOR AVAILABLE CURB HTS. AND DELIVERY INFORMATION.  
6. ALL FILTERS SHALL BE 2" THROWAWAY (OR EQUAL) FILTERS FOR RETURN AND 1" SCREENS FOR OUTSIDE AIR INTAKES.  
7. PROVIDE HAIL GUARD TO ROOFTOP UNITS IN THE STATE OF ARIZONA, COLORADO, ILLINOIS, KANSAS, MISSOURI, NEBRASKA, OKLAHOMA AND TEXAS.  
8. HEATING INPUT AND OUTPUT SHOWN ARE NOMINAL VALUES - CONTRACTOR TO DE-RATE PER MANUFACTURER INSTRUCTIONS AS REQUIRED FOR ELEVATION.  
9. MECHANICAL CONTRACTOR RESPONSIBLE FOR DETAIL ROOF OPENING LOCATIONS, STRUCTURAL VERIFICATION, AND ROOF GUARD RAILINGS PER CODE REQUIREMENTS AND MANUFACTURER'S REQUIREMENTS.  
10. PROVIDE ALL RTU'S WITH MULTI-SPEED DRIVES (WHEN POSSIBLE) AND FIELD SUPPLIED DRIVES (AS NEEDED)  
11. UNITS SHALL HAVE STAINLESS STEEL HEAT EXCHANGERS

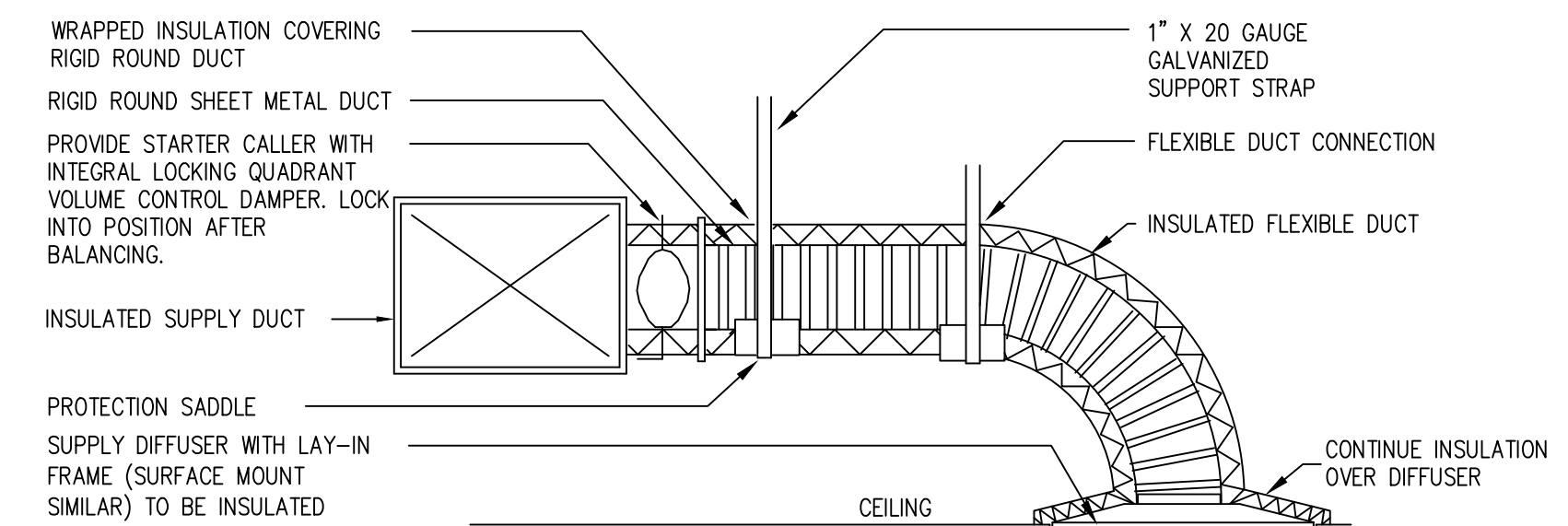
**KEY NOTES:**

- ROOF MOUNTED HVAC UNIT AND FACTORY FABRICATED ROOF CURB TO BE PROVIDED BY THE MECHANICAL CONTRACTOR. COORDINATE LOCATION IN FIELD AND STRUCTURAL REQUIREMENTS WITH STRUCTURAL ENGINEER. PROVIDE ROOF GUARDS PER CODE REQUIREMENTS IF NECESSARY BASED ON FINAL LOCATION. SEE MECHANICAL EQUIPMENT SCHEDULE FOR ADDITIONAL INFORMATION.
- PROVIDE SMOKE DETECTOR IN RETURN AIR DUCT FOR AUTOMATIC FAN SHUTDOWN. CONTRACTOR SHALL CONFIGURE DETECTOR CONTROL WIRING TO INTERRUPT LOW VOLTAGE SIGNAL. WHERE REQUIRED BY LOCAL CODE, CONTRACTOR TO PROVIDE SMOKE DETECTOR IN SUPPLY AIR DUCT IN LIEU OF RETURN, OR IN BOTH IF REQUIRED.
- RETURN AIR DUCT/PLENUM DROP FROM UNIT ABOVE. CONTRACTOR SHALL PROVIDE TRANSITION FROM DUCT DROP TO RETURN AIR DUCT. DUCT DIMENSIONS SHOWN ARE INSIDE CLEAR. SEE SPECIFICATION SHEET SP6 FOR ADDITIONAL INFORMATION AND INSULATION REQUIREMENTS.
- FILTERED RETURN AIR GRILL IN LAY-IN CEILING. USE EXTERNALLY INSULATED CANVAS OR NEOPRENE CONNECTION AT RETURN AIR DUCT ABOVE IF NECESSARY FOR ALIGNMENT.
- SUPPLY AIR DUCT/PLENUM DROP FROM UNIT ABOVE. CONTRACTOR SHALL PROVIDE TRANSITION FROM DUCT DROP TO SUPPLY AIR DUCTS AS SHOWN ON PLAN. LENGTH AS INDICATED ON DRAWING. SEE SPECIFICATION SHEET SP6 FOR ADDITIONAL INFORMATION AND INSULATION REQUIREMENTS.
- THERMOSTATS MOUNTED AT 66" A.F.F. - SEE RTU SCHEDULE FOR ADDITIONAL THERMOSTAT REQUIREMENTS.
- CEILING MOUNTED EXHAUST FAN TO BE PROVIDED BY THE MECHANICAL CONTRACTOR AND WIRED BY ELECTRICAL CONTRACTOR. FAN CONTROL TO BE VIA LOCAL LIGHT SWITCH AND CIRCUIT. PROVIDE 4" TO 6" TRANSITION FROM FAN CONNECTION TO EXHAUST DUCT. SEE EXHAUST FAN SCHEDULE AND LIGHTING PLAN 01/E2.01 FOR ADDITIONAL INFORMATION.
- EXTEND 6" GALVANIZED STEEL EXHAUST DUCT FROM FAN CONNECTION TO 6" DUCT THROUGH ROOF. TERMINATE WITH WEATHER PROOF GOOSENECK AND BIRDSCREEN. DO NOT TERMINATE EXHAUST LESS THAN 10'-0" FROM ANY OUTSIDE AIR INTAKE.
- EXHAUST FAN ON ROOF TO BE PROVIDED BY THE MECHANICAL CONTRACTOR. FAN IS TO BE SET LEVEL ON FACTORY CURB FURNISHED. SEE EXHAUST FAN SCHEDULE FOR ADDITIONAL INFORMATION. MAINTAIN MIN. DISTANCE OF 10'-0" FROM ANY OUTSIDE AIR INTAKE.
- BLANK-OFF SHADED QUADRANT OF DIFFUSER.
- EXTEND GENERAL EXHAUST DUCT OF SIZE SHOWN UP AND MAKE CONNECTION TO FAN. PROVIDE FLEXIBLE CONNECTION AT FAN. COORDINATE ROUTING IN FIELD.
- INSTALL ELECTRIC WALL HEATER ACCORDING TO MANUFACTURER'S REQUIREMENTS



**1 MECHANICAL FLOOR PLAN**  
M1.01 SCALE: 1/4" = 1'-0"

**REUSE ALL EXISTING EQUIPMENT,  
DUCTS AND REGISTERS EXCEPT AS  
NOTED--ADJUST AS REQUIRED AND  
FINISH TO MATCH NEW FINISHES**



NOTES:  
1. PROVIDE AT FLEXIBLE DUCT CONNECTION, METAL OR "PANUIT" DRAWBAND ON THE INTERIOR FLEXIBLE DUCT HELIX. SECURE THE INSULATION OVER THE DRAW BAND WITH AN ADDITIONAL DRAWBAND.  
2. PROVIDE BEADING ON ROUND METAL DUCT 12" AND LARGER.  
3. PROVIDE MINIMUM 4" COLLARS FOR ATTACHMENT OF THE FLEXIBLE DUCT TO THE ROUND DUCT, DAMPERS AND DIFFUSERS.  
4. BAND RIGID ROUND DUCT INSULATION TO DUCT AND PROVIDE TAPE FOR INSULATION OVERLAP.

**2 DIFFUSER CONNECTION DETAIL**  
M1.01 SCALE: N.T.S.

**AIR BALANCE**

MARK	OUTSIDE AIR CFM	EXHAUST AIR CFM
RTU-1	375 450	-
RTU-2	300 450	-
EF-1	-	100
EF-2	-	500 830
TOTALS	675	600 930

SPACE IS +75 CFM POSITIVE AIRFLOW. THE BALANCING CONTRACTOR SHALL VERIFY THAT THE BUILDING PRESSURE IS BETWEEN POSITIVE 0.02" WC AND POSITIVE 0.05" WC WITH RESPECT TO OUTDOORS. NOTIFY PROJECT MANAGER WITH ANY DISCREPANCIES, OR IF POSITIVE BUILDING PRESSURE CANNOT BE ACHIEVED WITH +110 CFM POSITIVE AIRFLOW