

**ABBREVIATIONS**

- AD - ACCESS DOOR
- AFF - ABOVE FINISHED FLOOR
- AHU - AIR HANDLING UNIT
- BDD - BACKDRAFT DAMPER
- BOD - BOTTOM OF DUCT
- CF - CEILING FAN
- CU - CONDENSING UNIT
- DG - DOOR GRILLE
- DAC - DOOR AIR CURTAIN
- E - EXISTING
- EA - EXHAUST AIR
- EAT - ENTERING AIR TEMPERATURE
- EE - EXISTING EXHAUST
- EF - EXHAUST FAN
- EG - EXHAUST GRILLE
- EMS - ENERGY MANAGEMENT SYSTEM
- ER - EXISTING RETURN
- ES - EXISTING SUPPLY
- EUH - ELECTRIC UNIT HEATER
- EWB - ELECTRIC WALL HEATER
- GALV - GALVANIZED
- GC - GENERAL CONTRACTOR
- H - KITCHEN EXHAUST HOOD
- IMC - INTERNATIONAL MECHANICAL CODE
- I/O - INPUT OUTPUT CONTROL
- LAT - LEAVING AIR TEMPERATURE
- LP - LOUVERED PENTHOUSE
- NFPA - NATIONAL FIRE PROTECTION ASSOCIATION
- MAU - MAKEUP AIR UNIT
- N - NEW
- NI - NEGATIVE IONIZER
- NIMC - NOT IN MECHANICAL CONTRACT
- NTS - NOT TO SCALE
- OA - OUTDOOR AIR
- R - RETURN GRILLE
- RA - RETURN AIR
- RTC - ROOF TOP CONTROL
- RTU - ROOF TOP UNIT
- S - SUPPLY DIFFUSER
- SA - SUPPLY AIR
- SS - STAINLESS STEEL
- TG - TRANSFER GRILLE
- TOD - TOP OF DUCT
- VCD - VOLUME CONTROL DAMPER
- UH - UNIT HEATER
- VIF - VERIFY IN FIELD

**LEGEND**

<p>KEYED NOTE</p> <p>① THERMOSTAT</p> <p>② THERMOSTAT WITH LOCKING COVER</p> <p>③ CPC EMS TEMPERATURE SENSOR</p> <p>④ CPC EMS HUMIDITY SENSOR</p> <p>⑤ CPC EMS DEW POINT SENSOR</p> <p>⑥ FAN ON/OFF SWITCH</p> <p>⑦ DUCT MOUNTED SMOKE DETECTOR</p> <p>⑧ DOOR AIR CURTAIN MICROSWITCH CONTROLLER</p> <p>⑨ HOOD FIRE SUPPRESSION SYSTEM MANUAL PULL STATION</p> <p>⑩ AIR DEVICE (REFER TO SCHEDULE)</p> <p>⑪ EQUIPMENT MARK NUMBER (REFER TO SCHEDULE)</p>	
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**ROOF TOP UNIT SCHEDULE**

MARK	AREA SERVED	ELECTRICAL					SUPPLY FAN		COOLING CAPACITY (NOTE 2)			NATURAL GAS HEATING			MANUFACTURER	MODEL	REMARKS	
		VOLTS	PHASE	HERTZ	MCA	MOP	AIR (CFM)	E.S.P. (IN. WG.)	TOTAL (MBH)	SENSIBLE (MBH)	SEER (EER)	INPUT (MBH)	OUTPUT (MBH)	AFUE				
RTU-5	WINE BAR	460	3	60	19.9	25	2400	1.2	480	87.34	63.31	(12.6)	120.0	96.0	0.80	TRANE	YHC092	① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ ⑮ ⑯ ⑰ ⑱

**NOTES:**

- UNITS SHALL BE PURCHASED BY HARRIS TEETER.
- GROSS COOLING CAPACITIES BASED ON 80°F DB/67°F WB E.A.T. AND 95°F DB O.A.T.
- DOWNFLOW CONFIGURATION.
- PROVIDE THROUGH THE BASE ELECTRICAL CONNECTION WITH FACTORY MOUNTED WEATHERPROOF ELECTRICAL DISCONNECT WITH HACR CIRCUIT BREAKER, ANTI-SHORT CYCLE TIMER, HIGH-LOW PRESSURE SWITCH, COIL GUARDS, THROWAWAY AIR FILTERS.
- PROVIDE PHASE LOSS PROTECTION (ICM450) FOR FIELD INSTALLATION BY ELECTRICAL CONTRACTOR.
- PROVIDE MOTORIZED 0-50% OUTDOOR AIR DAMPER.
- HIGH SPEED, BELT DRIVE, OVERSIZED MOTOR WHERE REQUIRED TO MEET LISTED EXTERNAL STATIC PRESSURE.
- PROVIDE ECONOMIZER WITH ENTHALPY CONTROLS.
- HVAC CONTRACTOR SHALL FIELD INSTALL CPC RTC BOARDS IN WEATHERPROOF ENCLOSURE.
- ALL LOOSE CPC CONTROL COMPONENTS SHALL BE FURNISHED BY HARRIS TEETER.
- PROVIDE 16" HIGH ROOF CURB, INCLUDING BURGLAR BARS. CURBS SHALL BE SLOPED TO MATCH ROOF PITCH. SEE ARCHITECTURAL DRAWINGS FOR ROOF SLOPE.
- REFRIGERANT R410A.
- PROVIDE SELF CONTAINED HOT GAS REHEAT COIL AND ASSOCIATED DEHUMIDIFICATION CONTROLS.
- PROVIDE WALL MOUNTED 7 DAY PROGRAMMABLE 2 STAGE COOL / 2 STAGE HEAT THERMOSTAT WITH NIGHT SETBACK.
- PROVIDE LOW AMBIENT CONTROL TO ALLOW COOLING OPERATION TO 0°F.
- PROVIDE FLEXIBLE DUCT CONNECTIONS AT INLET AND OUTLET DUCT CONNECTIONS.
- PROVIDE CONDENSATE PAN OVERFLOW SWITCH INTERLOCKED WITH UNIT CONTROLS TO SHUT OFF UNIT IF MOISTURE REACHES THE OVERFLOW LEVEL.

**AIR DEVICE SCHEDULE**

MARK	CFM	CONN. SIZE (NOTE 1)	N.C.	DAMPER	MODEL NO.	BASED ON / REMARKS
ES	EXISTING SUPPLY DIFFUSER					
S1	800	(15x15) 12e	-	-	SSH/CAD	KRUEGER/DUCT MOUNTED
S2	750	15x15 (14e)	25	-	SSHPCR4	KRUEGER/24x24 LAY-IN, 4-WAY
S3	470	12x12 (12e)	<25	-	SSHPCR4	KRUEGER/DUCT MOUNTED, 4-WAY
S4	250	12x12 (10e)	<16	-	SSHPCR4	KRUEGER/24x24 LAY-IN, 4-WAY
S5	200	9x9 (8e)	25	-	SSHPCR4	KRUEGER/24x24 LAY-IN, 4-WAY
ER	EXISTING RETURN REGISTER					
R1	3900	46x22	<25	-	EGCS	KRUEGER/48x24 LAY-IN
R2	1720	36x18	<25	-	S580	KRUEGER/DUCT MOUNTED, HORIZ. BLADES, 3/4" SPACING, 35° DEFLECTION
R3	200	8x8	<25	-	S580	KRUEGER/SURFACE MOUNTED, HORIZ. BLADES, 3/4" SPACING, 35° DEFLECTION

**NOTES:**

- ALL AIR DEVICES SHALL BE PURCHASED BY HVAC CONTRACTOR THROUGH McNAMARA & COMPANY.
- GENERAL CONTRACTOR TO FIELD PAINT TO MATCH WALL COLOR.

**HVAC EQUIPMENT NOTES**

GENERAL NOTE: REFER TO PROJECT SPECIFICATION MANUAL FOR LISTING OF ADDITIONAL MANUFACTURERS, ADDITIONAL FEATURES AND REQUIREMENTS. PROVIDE COMBINATION MAGNETIC STARTER/DISCONNECT WITH HAND/OFF/AUTO SELECTOR SWITCH FOR EACH MOTOR SPECIFIED TO OPERATE AT 200 VOLTS OR HIGHER. PROVIDE MANUAL STARTER/DISCONNECT WITH HAND/OFF/AUTO SELECTOR SWITCH FOR EACH MOTOR SPECIFIED TO OPERATE AT 120 VOLTS. ALL EQUIPMENT SUPPLIED WITH INTEGRAL STARTERS SHALL BE PROVIDED WITH DISCONNECTS.

**MISCELLANEOUS**

A. DUCTLESS AIR CONDITIONING UNIT (CAHU-1 AND COU-1)  
 MITSUBISHI MODEL MS-AD9WA/MU-AD9WA, WALL MOUNTED DUCTLESS SPLIT SYSTEM AIR CONDITIONER, COMPLETE WITH ROOF MOUNTED CONDENSING UNIT WITH FACTORY LOW AMBIENT CONTROLS AND WIRELESS REMOTE CONTROLLER INCLUDING ON-OFF SWITCH, FAN SPEED SWITCH, ROOM TEMPERATURE SETPOINT CONTROL AND MODE SELECTION SWITCH.  
 FAN: 300 CFM BASED ON HIGH SPEED.  
 COOLING: TOTAL - 9,500 BTU/HR, POWER CONSUMPTION - 870 WATTS  
 INDOOR UNIT WEIGHT: 23.0 LBS  
 INDOOR UNIT WALL MOUNTED.  
 CONDENSING UNIT - LISTED COOLING CAPACITIES BASED ON COOLING AMBIENT AIR TEMPERATURE - 95 F. UNIT SHALL BE SUITABLE FOR 0°F AMBIENT OR COOLING OPERATION.  
 OUTDOOR UNIT WEIGHT: 78.0 LBS.  
 ELECTRICAL DATA: 115V, 1P, 60H, MCA INDOOR = 1.2A, OUTDOOR = 14A, MOPC - 15 AMP.  
 ENERGY EFFICIENCY: 13.0 SEER

**AIR BALANCE SCHEDULE**

SUPPLY AIR SYSTEMS					EXHAUST SYSTEMS				
UNIT NO.	SUPPLY CFM	RETURN CFM (MINIMUM)	OUTSIDE AIR CFM	SERVING	UNIT NO.	FAN CFM	BLDG EXHAUST CFM	SERVING	NOTES
EXIST. HVAC-1	15,000	10,500	4,500		EXIST. EF-1	750	750	BAKERY OVEN	
EXIST. HVAC-2	8,000	6,400	1,600		EXIST. EF-2				DELETED DURING PREV. RENO.
EXIST. HVAC-3	9,000	7,200	1,800		EXIST. EF-3	4,000	4000	DELI HOODS H-1 & 2	
EXIST. HVAC-4	3,400	2,800	600	STOCKROOM/RECEIVING	EXIST. EF-4	1710	1710	PIZZA HOOD H-3	
EXIST. HVAC-7	1,800	1,300	500	EXIST. HVAC-C RENUMBERED	EXIST. EF-5	100	100	DELI JANITORS CLOSET	
EXIST. HVAC-6	2,200	1,700	500	EXIST. HVAC-D RENUMBERED	EXIST. F. A	600	600	RESTROOMS	
EXIST. AHU-1	800	680	120	PHARMACY	EXIST. F. B	600	600	RESTROOMS	
<b>NEW RTU-5</b>	<b>2,400</b>	<b>1,920</b>	<b>480</b>	<b>WINE BAR</b>					
<b>TOTAL OUTSIDE AIR</b>			<b>10,100</b>						
<b>TOTAL EXHAUST AIR</b>					<b>7,760</b>				
<b>PRESSURIZATION</b>					<b>2,340</b>				

**NOTE:**

ALL BIDDING HVAC CONTRACTORS TO CONTACT McNAMARA & COMPANY--RICK THOMAS @ (704) 243-3811 FOR HVAC EQUIPMENT PACKAGE PROPOSAL. HVAC CONTRACTOR TO PURCHASE EQUIPMENT PACKAGE FROM McNAMARA & COMPANY. NO EXCEPTIONS. HVAC CONTRACTOR IS RESPONSIBLE FOR ACCEPTING AND COORDINATING EQUIPMENT DELIVERY. HARRIS TEETER WILL PURCHASE EXHAUST HOOD, WET CHEMICAL FIRE SYSTEM FOR HOOD, ROOFTOP HVAC UNITS AND ROOFTOP FANS.

**ENVIRONMENTAL CONTROL SYSTEM**

DESCRIPTION	RTU-5
UNIT CONTROL BOARD	MF-RTU
SPACE TEMP SENSOR	1
UNIT SUPPLY TEMP SENSOR	1
UNIT RETURN TEMP SENSOR	1
OUTDOOR TEMP SENSOR	---
SPACE REL HUMID SENSOR	1
AIR FLOW SWITCH	1
<b>STAGING:</b>	
COOLING	2
GAS/ELECTRIC HEATING	2
HEAT RECLAIM	1 (SELF-CONT)
FAN	1
DAMPER	1

**NOTES:**

- THE MAIN EMS CONTROLLER SHALL BE FURNISHED WITH EMS PANEL BY HARRIS TEETER THROUGH THE REFRIGERATION EQUIPMENT MANUFACTURER AND FIELD INSTALLED IN THE REFRIGERATION/ELECTRICAL ROOM.
- ALL LOOSE CPC CONTROL COMPONENTS SHALL BE FURNISHED BY HARRIS TEETER THROUGH THE REFRIGERATION EQUIPMENT MANUFACTURER UNLESS NOTED OTHERWISE.
- THE CONTROL SYSTEM SHALL BE FULLY COMPATIBLE WITH THE HARDWARE/SOFTWARE SYSTEMS INSTALLED WITHIN EACH HVAC SYSTEM LISTED ABOVE.
- REFER TO ENERGY MANAGEMENT DRAWINGS FOR INSTALLATION RESPONSIBILITIES AND ADDITIONAL INFORMATION.
- HVAC CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL UNIT CONNECTIONS AND START-UP.

2012 NCMC Ventilation Calculation for Single and Multiple Zone Recirculating Systems														This portion of Table only required for Multiple Zone Constant Volume Recirculating systems.							
Mark	Room Name	Occupancy Classification	Gross Floor Area	Occ. Floor Area (FISd) A <sub>s</sub>	Area Outdoor Air Rate (CFM/FISd) R <sub>a</sub>	Area Outdoor Ventilation Rate R <sub>a</sub> Az	Occupant Density (People/1000 F2) OD	Occupancy Az*OD/1000 Pz	People Outdoor Air Rate (CFM/Person) Rp	Occupant Outdoor Ventilation Rp*Pz	Breathing Zone Outdoor Airflow (CFM) Rp*Pz+Ra*Az EQ. 4-1 Vbz	Zone Air Distribution Effectiveness Table 403.3.1.2 Ez	Zone Outdoor Airflow (CFM) Vbz/Ez EQ. 4-2 Voz	Supply Air Design (CFM) Vsa	Outdoor Air Fraction Voz/Vsz EQ. 4-5 Zp	MAX Zp	System Ventilation Efficiency Ev	System Population Total # of Occupants Ps	Occupancy Density Pa/Pz D	Total Outdoor Air Required (CFM) Vou/Ev EQ. 4-8 Vot	Total Outdoor Air Designed (CFM)
RTU 5	Wine Bar	Cafeteria fast food	604	604	0.18	108.72	25	15	7.5	113.25	222	0.8	277	1400	0.198	0.387	0.80	35	0.89	479	480
	Wine Bar Seating	Supermarket	938	938	0.06	56.28	25	23	7.5	175.875	232	0.8	290	750	0.387						
	Home Shopping Office	Office Space	158	158	0.06	9.48	5	1	5	3.95	13	0.8	17	290	0.067						

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PROJECT MANAGER  
 RICK STACY  
 DR. BY  
 KEM

REVISIONS	Date

HVAC SCHEDULES, NOTES  
 LEGEND AND  
 ABBREVIATIONS