SYMBOLS

HEATING - VENTILATING - AIR CONDITIONING

SYMBOL	DESCRIPTION
——S——	STEAM (LOW PRESSURE)
——MS——	STEAM (MEDIUM PRESSURE)
——HS——	STEAM (HIGH PRESSURE)
—/—/—	CONDENSATE (LOW PRESSURE)
—/—/—	CONDENSATE (MEDIUM PRESSURE)
—/—/—	CONDENSATE (HIGH PRESSURE)
——HWS——	HOT WATER SUPPLY (HEATING)
——HWR——	HOT WATER RETURN (HEATING)
——EGS——	ETHYLENE GLYCOL SUPPLY
——EGR——	ETHYLENE GLYCOL RETURN
——CWS——	CHILLED WATER SUPPLY
——CWR——	CHILLED WATER RETURN
——S——	CONDENSATE OR VACUUM PUMP DISCHARGE
——H——	HUMIDIFICATION LINE
——FOS——	FUEL OIL SUPPLY
——FOR——	FUEL OIL RETURN
——FOV——	FUEL OIL VENT
——G——	GAS LINE
——R———	REFRIGERANT LIQUID LINE
——RS———	REFRIGERANT SUCTION LINE
——RD———	REFRIGERANT HOT GAS DISCHARGE LINE
——C———	CONDENSER WATER
—CR—CR—	CONDENSER WATER RETURN
——BD———	BOILER BLOW OFF
——E———	EXHAUST STEAM
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
	UNION
	STRAINER
	EXPANSION JOINT
	THERMOMETER
	PRESSURE GAGE

SYMBOL	DESCRIPTION
	AUTOMATIC CONTROL VALVE
	PRESSURE REGULATING VALVE (PRV)
	SAFETY RELIEF VALVE
	BLOW OFF VALVE
	F AND T TRAP (GAP @ HP)
	THERMOSTATIC TRAP
S.P.	STATIC PRESSURE
	CIRCUIT SETTER FLOW CONTROL VALVE
	AIR BLEEDER VALVE (RADIANT PANEL)
	AIR ELIMINATOR
	AUTOMATIC BALANCING VALVE
	SOLENOID VALVE (NORMALLY CLOSED)
	THERMOSTATIC EXPANSION VALVE (TXEV)
	BACK PRESSURE VALVE
	SIGHT GLASS
	ROUND DUCT RISER
	FAN COIL UNIT AND MARK
UH-1	UNIT HEATER-PROPELLER TYPE & MARK
CUH-2	CABINET UNIT HEATER & MARK
	FIN TUBE, MARK AND CAPACITY
	CONVECTOR AND MARK
UV-1	UNIT VENTILATOR AND MARK
	RESTROOM EXHAUST FAN (SEE SCHEDULE FOR TYPE SHOWN)
	ROUND DUCT
	CANVAS CONNECTION
VD-1	VOLUME DAMPER (SEE V/D PLAN)
	TURNING VANES
	EXTRACTOR

SYMBOL	DESCRIPTION
SUPPLY	SUPPLY OR FRESH AIR DUCT (SA OR FA)
RETURN	RETURN OR EXHAUST DUCT (RA OR EA)
	SOUND TRAP
12"X4" CFM	SUPPLY REGISTER OR GRILLE (# OR S)
12"X4" CFM	RETURN REGISTER OR GRILLE (# OR S)
12"X4" CFM	FRESH AIR INTAKE (FA)
	ROUND CEILING DIFFUSER (SUPPLY)
	ROUND CEILING DIFFUSER (SUPPLY AND RETURN)
	SQUARE CEILING DIFFUSER (SUPPLY)
	SQUARE CEILING DIFFUSER (SUPPLY AND RETURN)
	LOUVER (EXHAUST OR RETURN AIR)
	SQUARE CEILING DIFFUSER (RETURN AIR)
	GRAVITY DAMPER
	MOTORIZED DAMPER
FD	FIRE DAMPER
SD	SMOKE DAMPER
FSD	FIRE AND SMOKE DAMPER
BD	BASEBOARD DIFFUSER
	BASEBOARD RADIATION
	REMOTE SENSOR
	THERMOSTAT

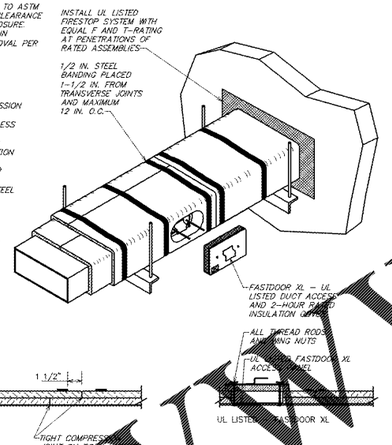
THERMOSTAT SCHEDULE

MARK	SERVICE & LOCATION	OCCUPIED		UNOCCUPIED		REMARKS
		COOLING	HEATING	COOLING	HEATING	
RTU-1	LOUNGE/BAR	75	70	78	60	
RTU-2	DINING	75	70	78	60	
RTU-3	KITCHEN	78	68	78	60	
MAU-1	HOOD-1 AND HOOD-2	78	68			
MAU-2	HOOD-3	78	68			
MAU-3	HOOD-4	78	68			
AC-1	PATIO	78	68	78	60	
AC-2	PATIO	78	68	78	60	

NOTES:
1. CONTRACTOR SHALL COORDINATE EXACT OPERATIONAL TIMES WITH OWNER/MANAGER PRIOR TO PROGRAMMING.
2. CONTRACTOR SHALL COORDINATE RESTROOM EXHAUST FAN TIMER WITH T-STAT SCHEDULE.
3. CONTRACTOR MUST VERIFY THAT HUMIDITY CONTROLS AND SENSORS FUNCTIONS PER MANUFACTURERS SPECIFICATIONS. SET TO 50% RH IN THE SPACE.

NOTES:

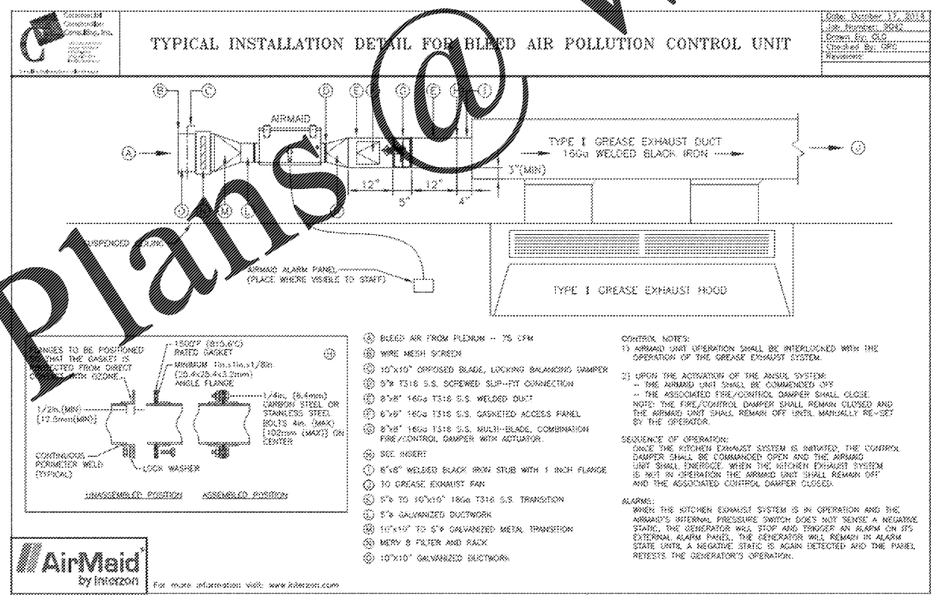
1. *THERMAL CERAMICS FIREMASTER FASTWRAP XL IS TESTED TO ASTM E2336 AND UL LISTED PER HWKT.G18 TO PROVIDE ZERO CLEARANCE TO COMBUSTIBLES AND TO PROVIDE A 1 OR 2 HOUR EXPOSURE. THROUGH PENETRATIONS FIRESTOP SYSTEMS ARE TESTED IN ACCORDANCE WITH ASTM E 814 (UL 1479). ICC-ES APPROVAL PER REPORT ESR 2213 OR EST 2832.*
2. *COMPLIANT TO THE FOLLOWING CODES:*
   NFPA 96
   INTERNATIONAL MECHANICAL CODES
   UNIFORM MECHANICAL CODE
   CALIFORNIA MECHANICAL CODE
3. *INSULATION APPLIED IN TWO LAYERS WITH TIGHT COMPRESSION JOINT ON BOTH LAYERS AT ALL JOINTS.*
4. *MINIMUM 16 GAUGE CARBON STEEL (OR 18 GAUGE STAINLESS STEEL) RECTANGULAR OR ROUND GREASE EXHAUST DUCT.*
5. *INSTALL UL LISTED AND LIQUID TIGHT THERMAL CERAMICS FASTDOOR XL ACCESS DOORS AT ALL CHANGES IN DIRECTION AND AT MINIMUM EVERY 20 FT ON HORIZONTAL RUNS.*
6. *SUPPORT HANGER SYSTEMS DO NOT NEED TO BE RAPPED PROVIDED THE HANGER RODS ARE MINIMUM OF 3/8" IN. DIAMETER AND SUPPORTS ARE MINIMUM 2 2 X 1 7/8 IN. STEEL ANGLE OR SMACNA EQUIVALENT SUPPORT SYSTEM.*
7. *THERMAL CERAMICS DUCT WRAP SHALL BE INSTALLED DIRECTLY ONTO THE DUCT AND APPLIED FROM THE HOOD CONNECTION TO THE CONNECTION OF THE FAN.*
8. *THERMAL CERAMICS DUCT ENCLOSURE SYSTEM SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS AND UL LISTINGS.*



** DETAIL COURTESY OF MORGAN THERMAL CERAMICS.

1 FIREMASTER FASTWRAP XL DETAIL

SCALE: NONE



2 AIRMAID POLLUTION CONTROL INSTALLATION DETAIL

SCALE: NONE

ROOF TOP UNITS (BY LANDLORD)

MARK	CLG. CAP. (MBH) SENS.	TOTAL	HTG CAP. (MBH) INPUT	OUTPUT	COMP. KW	CFM	EXT. S.P. (IN. W.G.)	FAN BHP	ELECTRICAL VOLTS	PH	MCA	MOCP	WEIGHT (LBS)	SEER / EER	ROOF TYPE	TRANE MODEL NUMBER
RTU-1	119.7	152.25	12.5	10.12	250.0	5000	0.60	1.67	208	3	67.9	80	2731	-/12.0	PA10A	YHD060
RTU-2	68.63	92.0	7.5	7.54	200.0	3000	0.40	1.03	208	3	41.9	50	1300	-/12.0	PA10A	YHC042
RTU-3	68.63	92.0	7.5	7.54	200.0	3000	0.40	1.03	208	3	41.9	50	1300	-/12.0	PA10A	YHC042
RTU-4	93.31	87.34	7.5	7.26	200.0	4000	0.60	0.68	208	3	41.9	50	1300	-/12.0	PA10A	YHC060
RTU-5	88.78	110.68	15.0	5.23	250.0	3200	0.80	1.24	208	3	48.1	60	2370	-/12.0	PA10A	YHC070

COOLING CAPACITIES BASED ON ARI STANDARD 210/240 OR 340/360. SUCH DIFFERENT WB INDOOR ENTERING AIR TEMPERATURE.
HSF FOR AIR ENTERING OUTDOOR FAN. SCHEDULED UNIT CFM MAY DIFFER FROM ARI STANDARD CFM.
TOTAL WEIGHT INCLUDES THE WEIGHTS OF THE BASE UNIT, ALL OPTIONS, AND THE CURB OR CURB ADAPTER.
** TRANE IS THE BASIS OF DESIGN. NO EXCEPTIONS UNITS ARE PROVIDED BY THE OWNER CONTACT MCNAMARA & COMPANY - RICK THOMAS AT (704) 243-3811 FOR LIST OF OWNER PROVIDED HVAC EQUIPMENT.
PROVIDE THE FOLLOWING ACCESSORIES FOR ROOFTOP UNIT
1. PROVIDE WITH FACTORY INSTALLED NON-FUSED DISCONNECT, UNPOWERED GFI WEATHERPROOF CONVENIENCE OUTLET, THROUGH THE BASE ELECTRICAL CONNECTION.
2. PROVIDE WITH 14" HIGH ROOF CURB.
3. SUPPLY DUCT SMOKE DETECTOR TO BE SUPPLIED BY FIRE ALARM PROVIDER (SECURITAS), INSTALLED BY MECHANICAL CONTRACTOR AND WIRED BY FIRE ALARM CONTRACTOR.
4. PROVIDE WITH CONDENSER COIL HAIL GUARD.
5. PROVIDE WITH HOT GAS REHEAT OPTION FOR DEHUMIDIFICATION FOR RTU-1, RTU-2, AND RTU-3.
6. PROVIDE WITH DRY-BULB TEMPERATURE ECONOMIZER.
7. PROVIDE WITH POWER EXHAUST FOR RTU-1 AND RTU-2.

EXHAUST FANS

MARK	LOCATION	SERVICE	CFM	EXT. S.P. (IN W.G.)	SONES	MOTOR DATA HP	VOLTS	PH	CYC.	RPM	MFR.	REMARKS
EF-6	ROOF	RESTROOMS	400	0.5	8.0	1/8	115	1	60		LOREN COOK	ACE140C150TP

UNITS ARE PROVIDED BY THE OWNER. CONTACT MCNAMARA & COMPANY - RICK THOMAS AT (704) 243-3811 FOR LIST OF OWNER PROVIDED HVAC EQUIPMENT.
NOTES:
1. PROVIDE SOLID STATE SPEED CONTROL.
2. PROVIDE MINIMUM 14" HEIGHT ROOF CURB.

DIFFUSERS, GRILLES AND REGISTERS

MARK	SERVICE	LOCATION	NECK TYPE	MATERIAL	CATALOG NUMBER	REMARKS
D-1	SUPPLY	CEILING	AC TILE	METALAIRE	5700-1-AL X 24x24 01 BDS	SEE PLAN FOR NECK SIZE
D-2	SUPPLY	DUCT	N/A	METALAIRE	4004POF X X [2]	SEE PLAN FOR NECK SIZE
D-3	SUPPLY	CEILING	TILE	METALAIRE	7500R-6-AL X 24x24 01 BDS	SEE PLAN FOR NECK SIZE
D-4	SUPPLY	CEILING	TILE	METALAIRE	5700-1-AL X 24x24 01 BDS	SEE PLAN FOR NECK SIZE
D-5	SUPPLY	WALL		METALAIRE	4004-1 X X 01 OBD [2]	SEE PLAN FOR NECK SIZE
D-6	SUPPLY	DUCT	N/A	METALAIRE	5700-1 X 12x12 01 BDS	SEE PLAN FOR NECK SIZE
	SUPPLY	CEILING	VARIES	METALAIRE	5700-1 X 12x12 01 BDS	SEE PLAN FOR NECK SIZE
G-1	RETURN	CEILING	AC TILE	METALAIRE	RHE-1 X X 01 [1]	SEE PLAN FOR NECK SIZE
G-2	EXHAUST	CEILING	AC TILE	METALAIRE	RHE-1 X X 01 [1]	SEE PLAN FOR NECK SIZE
G-3	RETURN	CEILING	GYP. BD.	METALAIRE	RHE-1 X X 01 [1]	SEE PLAN FOR NECK SIZE
G-4		WALL	N/A	METALAIRE	RHE-1 X X 01 [1]	SEE PLAN FOR NECK SIZE

UNITS ARE PROVIDED BY THE OWNER. CONTACT MCNAMARA & COMPANY - RICK THOMAS AT (704) 243-3811 FOR LIST OF OWNER PROVIDED HVAC EQUIPMENT.
NOTES:
1. PROVIDE 1/2" X 1/2" X 1" CORE.
2. COORDINATE DIFFUSER/GRILLE PAINT COLOR IN FIELD WITH ARCHITECT AND OWNER.

CIRCULATION FANS

MARK	LOCATION	SERVICE	CFM	EXT. S.P. (IN W.G.)	SONES	MOTOR DATA HP	VOLTS	PH	CYC.	RPM	MFR.	REMARKS
CF-1	SUSP. FRM STRUCTURE	MECH. RM.	400	0.475	3.0	150(W)	120	1	60	1400	LOREN COOK	GC-622

UNITS ARE PROVIDED BY THE OWNER. CONTACT MCNAMARA & COMPANY - RICK THOMAS AT (704) 243-3811 FOR LIST OF OWNER PROVIDED HVAC EQUIPMENT.
NOTES:
1. PROVIDE SOLID STATE SPEED CONTROL.
2. FAN SHALL OPERATE 24/7.
3. PROVIDE WITH BACKDRAFT DAMPER.

FANCOIL / AIR SOURCE HEAT PUMP

MARK	TOTAL COOLING (MBH)	REF. TYPE	HEATING CAPACITY ELECT. KW	HEATPUMP MBH	CFM	EXTERNAL S.P. (IN. H2O)	ELECTRICAL MCA	VOLTS	PH	MANUFACTURER / MODEL NUMBER
AC-1	NA	R410A	--	--	--	--	--	--	--	MITSUBISHI / PLA-A24BA
COND-1	24.0	R410A	NA	26.0 @ 47° F	NA	NA	18	208	1	MITSUBISHI / PUZ-A24NHA
AC-2	NA	R410A	--	--	--	--	--	--	--	MITSUBISHI / PLA-A30AA
COND-2	30.0	R410A	NA	32.0 @ 47° F	NA	NA	25	208	1	MITSUBISHI / PUZ-A30NHA

UNITS ARE PROVIDED BY THE OWNER. CONTACT MCNAMARA & COMPANY - RICK THOMAS AT (704) 243-3811 FOR LIST OF OWNER PROVIDED HVAC EQUIPMENT.
NOTES:
1. INDOOR UNIT (AC) IS POWERED THROUGH OUTDOOR UNIT (COND).
2. PROVIDE WITH ALUMASTAND MOUNTS FOR OUTDOOR CONDENSING UNITS.
3. PROVIDE WITH THERMOSTAT AND LOCATE AS SHOWN ON SHEET M1.01.

AIR BALANCE SCHEDULE

SUPPLY AIR UNIT	OUTSIDE AIRFLOW (CFM)	RETURN AIRFLOW (CFM)	SUPPLY AIRFLOW (CFM)	OA/SA %	EXHAUST AIR UNIT	EXHAUST AIRFLOW (CFM)	REMARKS
RTU-1	1420	3580	5000	28.4	EF-1	-3160	
RTU-2	870	2130	3000	29.0	EF-2	-2400	
RTU-3	870	2130	3000	29.0	EF-3	-3400	
RTU-4	350	2050	2400	14.6	EF-4	-2400	
RTU-5	470	2730	3200	14.6	EF-5	-800	
MAU-1	4535	0	4535	100.00	EF-6	-400	
MAU-2	2110	0	2110	100.00			
MAU-3	2040	0	2040	100.00			
TOTAL	12665	12820	25285	50.08	TOTAL	-12560	
					RESULTING BUILDING PRESSURIZATION	+105 CFM	
					PRESSURIZATION PERCENTAGE	0.415%	

HVAC RESPONSIBILITY SCHEDULE

	PROVIDE	INSTALL	NOTES
RTU-1, RTU-2 AND RTU-3	LANDLORD	LANDLORD	
CAPTIVEAIRE PACKAGE (HOODS, EF, MAU, ETC.)	OWNER	MECHANICAL CONTRACTOR	
EF-6	OWNER	MECHANICAL CONTRACTOR	
EXPOSED SPIRAL DUCT	OWNER	MECHANICAL CONTRACTOR	NOTE 1
DIFFUSERS/GRILLES	OWNER	MECHANICAL CONTRACTOR	
PC-1	MECHANICAL CONTRACTOR	MECHANICAL CONTRACTOR	
REFRIGERATION WORK (COOLER/FREEZER/ICE MACHINE)	--	--	NOTE 2
GREASE DUCT LEAK TEST	--	--	NOTE 2
TEST AND BALANCE	--	--	NOTE 3
SMOKE DETECTORS	FIRE ALARM CONTRACTOR	MECH. CONTRACTOR (WIRING BY FIRE CONTRACTOR)	
THERMOSTAT, SENSORS, HUMIDISTATS	OWNER	MECHANICAL CONTRACTOR	
WIRING AND PROGRAMMING OF T-STAT/HUMIDISTAT CONTROLS	MECHANICAL CONTRACTOR	MECHANICAL CONTRACTOR	
UNIT STARTUP	MECHANICAL CONTRACTOR	MECHANICAL CONTRACTOR	
TRAINING FOR HVAC UNITS TO OPERATIONS	MECHANICAL CONTRACTOR	--	
FILTERS CHANGED PRIOR TO STORE OPENING	MECHANICAL CONTRACTOR	MECHANICAL CONTRACTOR	

*MECHANICAL ITEMS NOT COVERED IN THE ABOVE SCHEDULE TO BE PROVIDED AND INSTALLED BY THE MECHANICAL CONTRACTOR UNLESS NOTED OTHERWISE.
NOTES:
1. DOES NOT APPLY TO KITCHEN SPIRAL DUCTWORK.
2. CONTRACTED SEPARATELY BY OWNER.
3. MECH SUB AND EC SUB REQUIRED TO BE ON WHILE RTU/FAN BALANCE COMPLETED BY MCNAMARA AND THE T&B ON THE EXHAUST HOODS BY CAPTIVEAIRE.

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Starr Design, PLLC
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Charlotte, NC 28208
V: 704 377 5200 F: 704 377 5201
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