

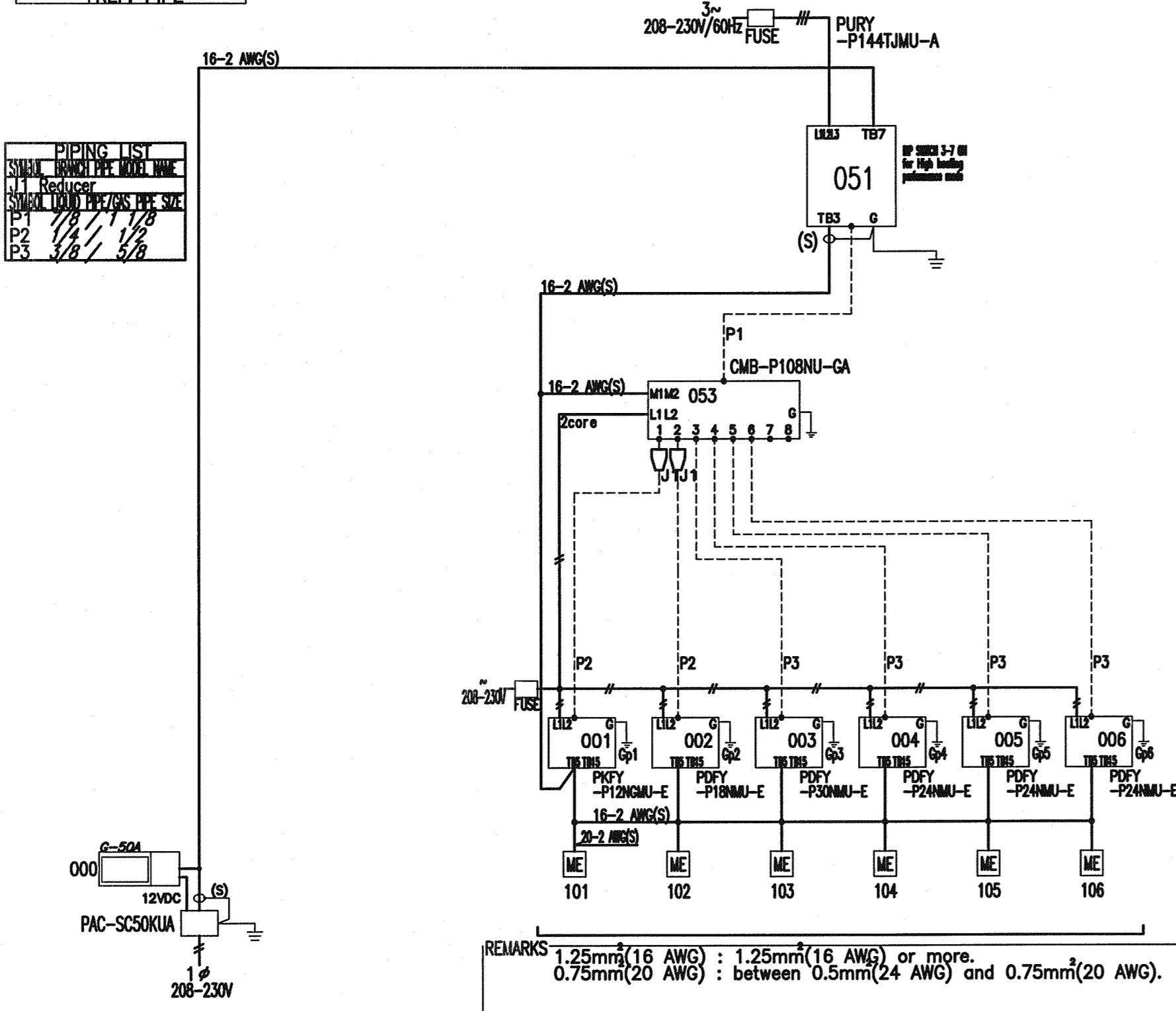
bb&t Holly Springs

CITY MULTI SYSTEM SCHEMATIC DWG.

Additional refrigerant charge is needed depending on the size and length of extended piping. Please refer the amount of pre-charge and the formula of calculation which is mentioned on the data book.

DIAGRAM	SYMBOL	LEGEND	(CONT.No)	PAGE
DISP	---	POWER WIRE		1/1
---	---	CONTROL WIRE		
---	---	REF. PIPE		

SYMBOL	DESCRIPTION
U	UNIT
P	PIPE
W	WIRE
F	FUSE
ME	MOTOR
BC	BRANCH CONTROLLER



REMARKS 1.25mm(16 AWG) : 1.25mm(16 AWG) or more.
0.75mm(20 AWG) : between 0.5mm(24 AWG) and 0.75mm(20 AWG).

MITSUBISHI ELECTRIC CORPORATION
PREPARED ON 2010/06/31

1 VRV SYSTEM SCHEMATIC
NO SCALE

SEQUENCE OF OPERATION

THIS CONTRACTOR SHALL PROVIDE CONTROLS FOR NEW UNITS IN BUILDING OPERATING AS OUTLINED BELOW.

INDOOR UNIT FANS SHALL BE STARTED AND STOPPED ON A PROGRAMMED BASIS BY THE CONTROL SYSTEM. SUPPLY FAN SHALL OPERATE CONTINUOUSLY WHEN THE UNIT IS IN THE OCCUPIED MODE. UPON A RISE IN SPACE TEMPERATURE ABOVE THERMOSTAT SETPOINT, UNIT COMPRESSOR SHALL ACTIVATE TO SATISFY SPACE CONDITIONS. AS TEMPERATURE FALLS BELOW SETPOINT, UNIT SHALL ACTIVATE REVERSE HEAT PUMP CYCLE INTO HEATING MODE.

EXHAUST FANS AND OUTSIDE AIR INTAKES

TOILET & JANITORS CLOSET EXHAUST FANS SHALL BE STARTED AND STOPPED, AND OUTSIDE AIR INTAKE MOTORIZED DAMPERS OPENED AND CLOSED ON A PROGRAMMED BASIS BY THE TIME CLOCK BASED ON BUILDING OCCUPANCY. BREAK ROOM EXHAUST FAN SHALL BE CONTROLLED BY A WALL SWITCH, SEE FAN SCHEDULE.

NOTE:

LOCATE BC CONTROLLER ABOVE OFFICE 1045. LOCATE CONTROL PANEL AND TIME CLOCK IN JANITOR'S CLOSET. COORDINATE EXACT LOCATION OF PANELS WITH ROOM LAYOUT.

THERMOSTAT SETPOINT GUIDELINES

MON-THU	COOLING		HEATING	
	TIME	SETPOINT	TIME	SETPOINT
DAY	7 AM	74°	7 AM	69°
EVENING	6 PM	78°	6 PM	66°
NIGHT	11 PM	80°	11 PM	66°
FRIDAY	TIME	SETPOINT	TIME	SETPOINT
DAY	7 AM	74°	7 AM	69°
EVENING	6 PM	78°	6 PM	66°
NIGHT	11 PM	80°	11 PM	60°
SAT-SUN	TIME	SETPOINT	TIME	SETPOINT
DAY	7 AM	80°	7 AM	60°
EVENING	6 PM	80°	6 PM	60°
NIGHT	11 PM	80°	11 PM	60°

NOTES:

- SETPOINTS ARE FOR INITIAL SETUP ONLY AND SHALL BE PROGRAMMED IN THE PRESENCE OF BANK PERSONNEL. FINAL SETPOINTS SHALL BE APPROVED BY BANK MANAGER AND OWNER'S REPRESENTATIVE.
- FANS SHALL BE SET TO RUN CONTINUOUSLY IN THE OCCUPIED MODE, CYCLING COMPRESSORS AND HEATERS BASED ON THERMOSTAT DEMAND. FANS SHALL CYCLE WITH LOADS DURING UNOCCUPIED TIMES.

NORTH CAROLINA STATE BUILDING CODE

APPENDIX B (IECC 2006 - NCECC 2009 - SECTION 501.1)
COMPLIANCE WITH ASHRAE 90.1
MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT
METHOD OF COMPLIANCE:

PRESCRIPTIVE PERFORMANCE ENERGY COST BUDGET

THERMAL ZONE: 4

EXTERIOR DESIGN CONDITIONS

winter dry bulb 21.2° F.
summer dry bulb 91.3° F.

INTERIOR DESIGN CONDITIONS

winter dry bulb 70° F.
summer dry bulb 75° F.
relative humidity 50% R.H.

BUILDING HEATING LOAD

58,400 BTUH (peak)

BUILDING COOLING LOAD

99,100 BTUH (peak)

MECHANICAL SPACING CONDITIONING SYSTEM

UNITARY description of unit
VARIABLE REFRIGERANT FLOW
PER ASHRAE 90.1
cooling efficiency
heat output of unit
cooling output of unit

BOILER total boiler output of unit

N/A

CHILLER total chiller capacity

N/A

LIST EQUIPMENT EFFICIENCIES

Equipment schedules with motors (mechanical systems)

motor horsepower	n/a
number of phases	n/a
minimum efficiency	n/a
motor type	n/a
# of poles	n/a

SIGNED: *STEVEN R. DALEY*
NAME: STEVEN R. DALEY, P.E.
TITLE: MECHANICAL ENGINEER

VRV INDOOR UNIT SCHEDULE

SYMBOL	STYLE	CFM	OA CFM	E.S.P.	COOLING CAPACITY		HEAT CAP (BTUH)	ELECTRICAL DATA			MANUFACTURER	
					IC (BTUH)	SHC (BTUH)		FAN_W	MCA	FUSE		VOLTAGE
IDU-1	WALL MOUNTED	400	---	---	10,600	8,500	9,200	30	0.34	15	208V-1Ø	PKFY-P12NGMU-E
IDU-2	CEILING CONCEALED	500	110	0.4"	15,900	12,300	13,600	85	0.77	15	208V-1Ø	PDFY-P18NMU-E
IDU-3	CEILING CONCEALED	880	170	0.4"	26,600	19,400	23,200	95	1.07	15	208V-1Ø	PDFY-P30NMU-E
IDU-4	CEILING CONCEALED	670	140	0.4"	21,300	15,900	18,400	95	0.87	15	208V-1Ø	PDFY-P24NMU-E
IDU-5	CEILING CONCEALED	670	140	0.4"	21,300	15,900	18,400	95	0.87	15	208V-1Ø	PDFY-P24NMU-E
IDU-6	CEILING CONCEALED	670	140	0.4"	21,300	15,900	18,400	95	0.87	15	208V-1Ø	PDFY-P24NMU-E

NOTES:

- COOLING CAPACITY BASED ON 80°/67° ENTERING AIR. HEATING CAPACITY BASED ON 65° ENTERING AIR.
- PROVIDE ALL UNITS WITH U.L. LABEL AND SOUND ABSORBING INSULATION.
- PROVIDE DUCTED UNITS WITH CONDENSATE PUMP AND FIELD FABRICATED FILTER BOX FOR ONE 12x30x1" THICK DISPOSABLE FILTER. REPLACE CONSTRUCTION FILTERS AT PROJECT COMPLETION, AND SUPPLY OWNER WITH ONE BOX OF 12 REPLACEMENT FILTERS. PROVIDE IDU-1 WITH CONDENSATE PUMP.
- PROVIDE ONE CENTRAL REMOTE CONTROLLER (BY EQUIPMENT MANUFACTURER) FOR CONTROL OF ENTIRE SYSTEM, LOCATE UNIT IN JANITOR'S CLOSET. PROVIDE INDIVIDUAL SIMPLIFIED REMOTE CONTROLLER WITH EACH INDOOR UNIT.
- OUTSIDE AIR (NOMC TABLE 403.3):
OFFICE AREA: 3650 SQ. FT. (7 PEOPLE) = 26 PEOPLE
1000 SQ. FT. CFM PERSON = 520 CFM
26 PEOPLE (20 PERSON) = 520 CFM
CONFERENCE ROOM: 150 SQ. FT. (50 PEOPLE) = 8 PEOPLE
1000 SQ. FT. CFM PERSON = 160 CFM
8 PEOPLE (20 PERSON) = 160 CFM
O.A. REQUIRED = 680 CFM
O.A. PROVIDED = 700 CFM

CONDENSING UNIT SCHEDULE (WITH HEAT RECOVERY)

SYMBOL	COOLING CAPACITY		HEAT CAPACITY (BTUH)	COMPRESSOR KW	FAN KW	ELECTRICAL DATA			MANUFACTURER
	IC (BTUH)	SHC (BTUH)				MCA	FUSE	VOLTAGE	
HP-1	117,200	89,100	101,300	1 @ 9.5	2 @ 0.92	59	100	208V-3Ø	PURY-144TJMU-A

NOTES:

- COOLING CAPACITY @ 90° AMBIENT. HEATING CAPACITY @ 16° AMBIENT.
- ALL UNITS SHALL BE PROVIDED WITH R410 REFRIGERANT.
- ALL UNITS SHALL BE U.L. LISTED AND ASHRAE 90.1 COMPLIANT
- MOUNT UNITS ON A 4" THICK CONCRETE PAD AND PROVIDE MANUFACTURER'S RECOMMENDED CLEARANCES AROUND EACH UNIT.
- PROVIDE UNITS WITH LOW AMBIENT CONTROLS.
- REQUIRED REFRIGERANT PIPING SIZING AND ACCESSORIES (BASED ON ACTUAL LAYOUT) TO BE SELECTED BY EQUIPMENT MANUFACTURER (COMPLETE REFRIGERANT PIPING SYSTEM/DESIGN TO BE INCLUDED WITH EQUIPMENT SUBMITTALS).

BC CONTROLLER SCHEDULE

SYMBOL	IC (BTUH)	BRANCHES CAPACITY USED		ELECTRICAL DATA			MANUFACTURER	MATCHING CONDENSING UNIT
		IC (BTUH)	SHC (BTUH)	MCA	KW	VOLTAGE		
BC-1	122,200	8	6	0.54	0.112	208V-1Ø	CMB-P108NU-GA	HP-1

NOTES:

FAN SCHEDULE

SYMBOL	TYPE	CFM	APPROX. S.P.	DRIVE	MAX. RPM	ELECTRICAL DATA			MANUFACTURER	ACCESSORIES
						WATTS	H.P.	VOLTAGE		
F-1	CEILING EXH	150	0.25"	DIRECT	1050	129	---	120V-1Ø	SP-B90	A,B,K,R
F-2	CEILING EXH	75	0.25"	DIRECT	700	50	---	120V-1Ø	SP-B90	A,B,K,R
F-3	CEILING EXH	75	0.25"	DIRECT	700	50	---	120V-1Ø	SP-B90	A,B,K,R
F-4	CEILING EXH	350	0.25"	DIRECT	1000	121	---	120V-1Ø	SP-A410	A,B,H,R

ACCESSORIES

- | | | |
|--|--|---------------------------------|
| A: DISCONNECT SWITCH | H: WALL MOUNTED ON/OFF SWITCH WITH IDENTIFICATION LABEL | N: WALL MOUNTING COLLAR |
| B: BACKDRAFT DAMPER | I: WALL MOUNTED THERMOSTAT | O: MOTORSIDE FAN GUARD |
| C: PREFAB. ROOF CURB | J: DISCHARGE HOOD | P: 2" WASHABLE ALUMINUM FILTERS |
| D: BIRDSCREEN | K: INTERLOCK WITH BUILDING TIME CLOCK (TIME CLOCK BY MECH. CONTR.) | Q: DUCT ADAPTER |
| E: ACOUSTICAL LINING | L: WL, WALL LOUVER DISCHARGE | R: EXHAUST GRILLE |
| F: HANGING BRACKETS WITH VIBRATION ISOLATION | M: RFC, ROOF CAP (FLAT ROOF) | S: U.L. 762 |
| G: WALL MOUNTED PUSH BUTTON SWITCH/STARTER | RL, ROOF CAP (PITCHED ROOF) | T: FACTORY SPEED CONTROLLER |

NOTES:

- ALL FANS SHALL BE U.L. LISTED AND LABELED.
- ALL FANS SHALL BE SUPPLIED BY ONE MANUFACTURER UNLESS NOTED OTHERWISE.

GRILLE & DIFFUSER SCHEDULE

SYMBOL	SERVICE	CFM RANGE	FACE SIZE	NECK SIZE	TYPE	OBD	PRICE
A	SUPPLY	0 - 100	12x12	6"	PERF.	NO	PDS
B	SUPPLY	0 - 175	24x24	8"	PERF.	NO	PDC
C	SUPPLY	180 - 270	24x24	10"	PERF.	NO	PDC
D	RETURN	0 - 175	24x24	8"	PERF.	NO	PDDR
E	RETURN	180 - 270	24x24	10"	PERF.	NO	PDDR
F	RETURN	275 - 390	24x24	12"	PERF.	NO	PDDR
G	RETURN	395 - 500	24x24	12x12	PERF.	NO	PDDR
H	RETURN	505 - 885	24x24	16x16	PERF.	NO	PDDR
TF	Therma-Fuser (See Note 3)						

NOTES:

- ALL DEVICES SHALL BE FINISHED WITH AN ENAMEL OFF-WHITE FINISH.
- ALL DEVICES SHALL BE FURNISHED WITH FRAMES SUITABLE FOR TYPE OF INSTALLATION REQUIRED.
- GRILLES MARKED "TF" SHALL BE SQUARE THERMA-FUSERS (ACUTHERM MODEL TF-HC THERMALLY POWERED VARIABLE AIR VOLUME DIFFUSERS). BALANCE AIR QUANTITY TO DELIVER LISTED CFM AS A MAXIMUM WHEN GRILLE BLADES ARE WIDE OPEN IN EITHER HEATING OR COOLING MODE. SEE PLANS FOR NECK SIZES.

LAMBERT ARCHITECTURE + INTERIORS

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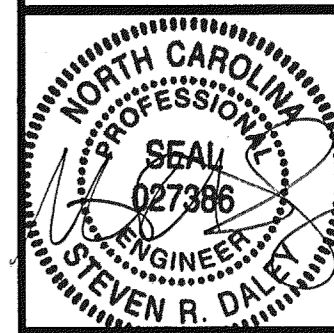


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BB&T

BRANCH BANK
701 VILLAGE WALK DRIVE
HOLLY SPRINGS, NC

BB&T PLANON # DEN-00000126



- 10-15-10 OWNER REVIEW
- PRELIMINARY DOCUMENTS
 - DESIGN DEVELOPMENT DOCUMENTS
 - PERMITTING DOCUMENTS
 - BID DOCUMENTS
 - CONSTRUCTION DOCUMENTS
 - RECORD DOCUMENTS

REVISIONS:

JOB NO: 10036
SHEET

DATE: 10/15/2010
DRAWN: CHD