

MECHANICAL GENERAL NOTES:	
1. PRIOR TO SUBMITTING BID, CONTRACTOR SHALL VISIT PROJECT AND REVIEW EXISTING CONDITIONS. NO ADDITIONAL MONIES WILL BE AWARD FOR "UNFORESEEN PROJECT CONDITIONS." CONTRACTOR SHALL INCLUDE IN HIS BID ALL MONIES REQUIRED FOR THE EXISTING PROJECT CONDITIONS. CONTRACTOR SHALL INFORM ARCHITECT AT TIME OF BID PROJECT CONDITIONS IN WHICH HE HAS DIFFICULTY IN WORKING AROUND.	20. THE OWNER, OPERATOR, ARCHITECTURAL NOR ENGINEER ARE RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS, MEANS AND METHODS, WORK TECHNIQUES, CONSTRUCTION SEQUENCE OR PROCEDURES REQUIRED TO COMPLETE THE WORK.
2. REFER TO ALL OTHER DRAWINGS IN THIS PROJECT, INCLUDING TO BUT NOT LIMITED TO THE ARCHITECTURAL, INTERIOR DESIGN, LIGHTING DESIGN, AND ELECTRICAL AND PERFORM ALL SCOPE ITEMS IDENTIFIED WITHIN THOSE DRAWINGS AS IF THEY ARE DIRECTLY INCORPORATED INTO THE MECHANICAL SET.	21. ALL EXTERIOR WALL, AND ROOF PENETRATIONS SHALL BE SEALED WITH WATERPROOFING.
3. FURNISH AND INSTALL ALL NECESSARY LABOR AND MATERIALS FOR A COMPLETE SYSTEM. ANY ITEMS AND MATERIALS OBVIOUSLY NECESSARY FOR A COMPLETE WORKING SYSTEM ALTHOUGH NOT SHOWN WITHIN THESE DOCUMENTS SHALL BE PROVIDED AS PART OF THE INITIAL BID.	22. ALL PENETRATIONS THROUGH FIRE RATED WALLS, FLOORS OR BARRIERS SHALL BE SEALED WITH FIREPROOFING.
4. WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH STATE AND LOCAL REQUIREMENTS.	23. PROVIDE FIRE DAMPERS (FD) IN ALL FIRE RATED WALLS AS IDENTIFIED ON ARCHITECTURALS DRAWINGS. THE RATINGS OF THE FIRE DAMPERS SHALL MEET OR EXCEED THE RATING OF THE WALL IN WHICH IT IS INSTALLED. FIRE DAMPERS SHALL BE UL LISTED AND SHALL BE TYPE B (BLADES OUT OF THE AIR STREAM) OR TYPE C (100% FREE AREA). PROVIDE AND INSTALL DUCT MOUNTED ACCESS PANEL FOR ALL NON-ACCESSIBLE FIRE DAMPERS.
5. OBTAINING PERMIT, INCLUDING LABOR AND FEES SHALL BE PROVIDED AS PART OF THE INITIAL BID.	24. ALL ACCESS PANELS REQUIRED FOR EQUIPMENT MAINTENANCE SHALL BE FIELD COORDINATED WITH ARCHITECT. THESE DRAWINGS SHALL APPROXIMATE LOCATIONS, FINAL LOCATIONS SHALL BE COORDINATED IN THE FIELD.
6. DRAWINGS ARE GENERALLY DIAGRAMMATIC AND DO NOT NECESSARILY SHOW FITTINGS AND OTHER SMALL ITEMS REQUIRED FOR A COMPLETE INSTALLATION. INSTALL DUCTWORK, EQUIPMENT AND CONTROLS IN A MANNER TO MINIMIZE NOISE, PROVIDE APPROPRIATE MAINTENANCE CLEARANCE IN THE SPACE ALLOCATED.	25. AT EACH BRANCH TAKEOFF, PROVIDE MANUAL VOLUME DAMPERS FOR BALANCING FOR EACH DIFFUSER TAKEOFF, PROVIDE ADJUSTABLE SPIN-IN CONNECTION.
7. MATERIALS AND LABOR SHALL BE WARRENTED FOR ONE YEAR AFTER TAKEOVER.	26. PROVIDE DUCT LINER FOR THE FIRST TEN FEET OF SUPPLY AND THE LAST 10 FEET OF RETURN DUCTWORK FROM THE HVAC EQUIPMENT. THE REMAINING DUCTWORK SHALL BE WRAPPED WITH INSULATION.
8. ALL DUCTWORK SHALL BE INSTALLED IN ACCORDANCE WITH SMACNA GUIDELINES, LATEST EDITIONS.	27. ALL THERMOSTATS SHALL BE PROGRAMMABLE AND HAVE A 4 DEGREE DEADBAND.
9. PRIOR TO ORDERING ANY EQUIPMENT, THIS CONTRACTOR SHALL PROVIDE COORDINATION TO THE ELECTRICAL SUBCONTRACTOR AND STRUCTURAL REQUIREMENTS TO THE GENERAL CONTRACTOR. ANY COSTS DIFFERENCES WILL BE WORKED THROUGH THE GENERAL CONTRACTOR AT THIS TIME. PROVIDE TO THE ELECTRICAL SUBCONTRACTOR THE PHASE, AMPERAGE AND VOLTAGE OR EACH PIECE OF EQUIPMENT PRIOR TO ORDERING.	28. INSTALL SMOKE DETECTOR IN THE REURN AIR SYSTEM FOR ALL UNITS WITH CAPACITY GREATER THAN 2000 CFM. THE SMOKE DETECTOR SHALL BE INSTALLED AFTER THE LAST RETURN AND PRIOR TO MIXING WITH OUTSIDE AIR.
10. CONTRACTOR SHALL REFER TO THE ELECTRICAL DRAWINGS, LIGHTING DESIGN DRAWINGS AND THE REFLECTED CEILING PLAN (RCP) WHEN INSTALLING THE CEILING DIFFUSERS AND RETURN GRILLS.	29. ALL MATERIAL INSTALLED WITHIN A RETURN AIR PLENUM SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE DEVELOPED INDEX OF NOT MORE THAN 50.
11. COORDINATE WITH THE ELECTRICAL SUBCONTRACTOR IN REGARDS TO DISCONNECTS, BREAKERS, POWER WIRING, MOTOR CONTROL DEVICES, MECHANICAL CONTRACTOR SHALL PROVIDE STARTERS, TRANSFORMERS, ETC AND COORDINATE THE INSTALLATION WITH THE ELECTRICAL SUBCONTRACTOR.	30. ALL WIRING INSTALLED WITHIN THE PLENUM SHALL BE PLENUM RATED OR INSTALLED WITHIN CONDUIT.
12. PROVIDE UL LISTED, HEAVY DUTY FIBERGLAS CONNECTOR AT FAN, AIRHANDLERS, FAN COIL UNITS, ROOFTOP UNITS AND OTHER MECHANICAL EQUIPMENT WHERE THEY CONNECT TO SHEET METAL DUCTWORK. THE FIBERGLAS CONNECTOR SHALL BE INSTALLED WITH APPROPRIATE LENGTH TO ALLOW FOR VIBRATION AND NOISE TRANSMISSION.	31. ALL EQUIPMENT INSTALLED ABOVE THE CEILING SHALL BE ACCESSIBLE. CONTRACTOR SHALL SUPPLY ACES PANELS IN CEILING OR WALL AND SHALL COORDINATE WITH ARCHITECT FOR PROPER LOCATION. ACCESS PANELS IN CEILING SHALL BE A MINIMUM OF 24"x24" WITH HINGES. ACCESS PANELS SHALL HAVE SAME FIRE RATING AS CEILING IN WHICH THEY ARE INSTALLED.
13. DUCTWORK SHALL BE GALVANIZED SHEET METAL INACCORDANCE WITH SMAONA GUIDELINES.	32. EACH PIECE OF EQUIPMENT SHALL BE PERMANLTY LABELED IWITH A NAMEPLATE OF SUFFICIENT SIZE TO CLEARLY INDICATE THE EQUIPMENT DESIGNATION INACCORDANCE WITH THE DRAWINGS (IE PIU-1, RTU-1, ETC.). NAMEPLATES TO BE IBAKED ENAMEL OR ALUMINUM WITH STAMPED LETTERS.
14. ROUND FLEXIBLE CONNECTORS SHALL BE PROVIDED BETWEEN MAIN DUCT AND DIFFUSERS. PROVIDE THERMAFLEX PRO SERIES. UTILIZE SPIN-IN CONNECTORS WITH SCOOP AND ADJUSTABLE DAMPER FOR AIR CONTROL.	33. EACH DUCT OR PIPE WHICH PENETRATES ANY FIRE OR SMOKE PARTITION SHALL HAVE THE WALL OPENING SEALED WITH HILTI FIRE STOP TO PREVENT THE SPREAD OF SMOKE.
15. FLEXIBLE DUCTWORK SHALL BE INSTALLED FREE OF KINKS AND SHALL BE LIMITED TO 8'-0" IN LENGTH. DIAMETER SHALL BE THE SAME AS THE DIFFUSER NECK.	34. ANY EXISTING WALL, FLOOR, OR CEILING SURFACE, DISTURBED DURING THE COURSE OF CONSTRUCTION, SHALL BE REPAIRED TO LIKE NEW OR PREVIOUS CONDITION TO THE SATISFACTION OF THE ARCHITECT.
16. ALL PORTIONS OF DUCTWORK VISIBLE THROUGH DIFFUSER AND RETURN GRILL OPENINGS SHALL BE PAINTED FLAT BLACK. ALL PORTIONS EXPOSED IN AREAS WITHOUT CEILING SHALL BE PAINTED PER THE ARCHITECTURAL DRAWINGS.	35. RECORD DRAWINGS:  THE CONTRACTOR SHALL MAINTAIN ON A DAILY BASIS AT THE PROJECT SITE A COMPLETE SET OF "RECORD DRAWINGS", REFLECTING AN ACCURATE DIMENSIONAL RECORD OF ALL BURIED OR CONCEALED WORK. THE "RECORD DRAWINGS" SHALL BE MARKED TO SHOW THE PRECISE LOCATION OF CONCEALED WORK, AND EQUIPMENT INCULDING CONCEALED OR EMBEDDED PIPING AND VAVLES AND ALL CHANGES AND DEVIATIONS FROM THE CONTRACT DOCUMENTS. THIS REQUIREMENT SHALL NOT BE CONSTRUED AS AUTHORIZATION FOR THE CONTRACTOR TO MAKE CHANGES WORK WITHOUT APPROVAL FROM THE ARCHITECT.
17. CONTRACTOR SHALL FIELD VERIFY SPACE REQUIREMENTS FOR DUCTWORK PRIOR TO MANUFACTURING. ADJUSTMENTS TO DUCT SIZES IS ACCEPTABLE AS LONG AS THE FOLLOWING FRICTION FACTORS ARE MAINTAINED:  SUPPLY: 0.08"/100FT RETURN: 0.06"/100FT.	THE "RECORD DRAWINGS" SHALL BE CLEARLY MARKED WITH "RECORD DRAWINGS" INDICATED IN THE LOWER RIGHT CORNER OF THE DRAWINGS.
18. ALL THERMOSTATS UNLESS OTHERWISE NOTED SHALL BE INSTALLED AT THE SAME HEIGHT AS THE EXISTING THERMOSTATS.	36. UPON THE COMPLETION OF THE HVAC SYSTEM INSTALLATION, PROVIDE A COMPLETE TEST AND BALANCE. THE TEST AND BALANCE SHALL MEASURE AIR FLOWS FOR EACH PIECE OF EQUIPMENT, DIFFUSER AND RETURN GRILL. SUBMIT TO ARCHITECT TEST AND BALANCE PLAN THREE DAYS PRIOR TO INTENDED START DATE.
19. ALL DUCT DIMENSIONS SHOWN IN THIS SET REFERS TO CLEAR INSIDE DIMENSION. IF DUCTWORK IS LINED, INTERIOR SHEET METAL SIZE SHALL BE INCREASED TO ACCOUNT FOR THE LINEAR THICKNESS.	

AIR DISTRIBUTION SCHEDULE							
MARK	TYPE	SIZE IN INCHES		FINISH	O.B.D.	BASIS OF DESIGN	NOTES
		NECK	FACE				
<u>A</u>	SUPPLY	10"ø	24"x24"	WHITE	NO	TITUS TMS	①
<u>B</u>	RETURN	N/A	24"x24"	WHITE	NO	TITUS 50F	①

① ALUMINUM. COORDINATE FRAME WITH CEILING TYPE. SEE ARCHITECTURAL DRAWINGS

FAN SCHEDULE							
MARK	CFM	S.P. WG	HP	TYPE	BASIS OF DESIGN	LOCATION/SERVICE	NOTES
<u>EF-1</u>	75	0.125"	18.6 WATTS	CABINET	GREENHECK SPB-080	TOILET ROOM	①
<u>EF-2</u>	75	0.125"	18.6 WATTS	CABINET	GREENHECK SPB-080	TOILET ROOM	①
<u>EF-3</u>	75	0.125"	18.6 WATTS	CABINET	GREENHECK SPB-080	TOILET ROOM	①
<u>EF-4</u>	75	0.125"	18.6 WATTS	CABINET	GREENHECK SPB-080	TOILET ROOM	①

① INTERLOCK WITH TOILET ROOM LIGHT SWITCH, VERIFY PROPER OPERATION.

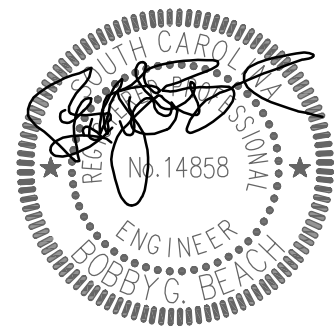
RTU SCHEDULE												
MARK	CFM	MIN OA CFM	ESP IN WC	HP	COOLING CAP.		MIXED AIR TEMPERATURES	HEATING CAP.		BASIS OF DESIGN	SEER EER	NOTES
					TOTAL	SEN		INPUT	OUTPUT			
RTU-T-1	1600	240	0.8	1.0	50.0	39.0	80°Fdb / 67°Fwb	65.0	52.0	LENNOX KGA048	13.0	①
RTU-WJ-1	2400	320	0.8	1.0	72.2	57.7	80°Fdb / 67°Fwb	65.0	52.0	LENNOX KGA072	15.0	②
RTU-BWW-1&2	5000	1500	0.8	5.0	150.0	111.8	80°Fdb / 67°Fwb	130.0	104.0	LENNOX LGH150S4	10.8	③
RTU-BWW-3	6000	1700	1.0	5.0	172.4	134.5	80°Fdb / 67°Fwb	169.0	135.0	LENNOX LGH180H4	12.0	③

① 1. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR PRIOR TO PLACING ORDER FOR EQUIPMENT.  
2.. PROVIDE FULL PERIMETER ROOF CURB, AND PROGRAMMABLE THERMOSTAT.

② 1. PROVIDE FACTORY INSTALLED DIFFERENTIAL ENTHALPY ECONOMIZER AND BAROMETRIC RELIEF.  
2. PROVIDE MOTORIZED OUTSIDE AIR DAMPER.  
3. PROVIDE FACTORY INSTALLED SMOKE DETECTOR IN THE SUPPLY DUCT.  
4. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR PRIOR TO PLACING ORDER FOR EQUIPMENT.  
5. PROVIDE FULL PERIMETER ROOF CURB, AND PROGRAMMABLE THERMOSTAT.

③ ROOFTOP UNITS FOR SUITE C TO BE PROVIDED AND INSTALLED BY TENANT.  
1. PROVIDE MOTORIZED 100% OUTSIDE AIR DAMPER.  
2. PROVIDE FACTORY WIRED DISCONNECT.  
3. PROVIDE FACTORY INSTALLED DIFFERENTIAL ENTHALPY ECONOMIZER AND BAROMETRIC RELIEF.  
4. PROVIDE UNIT MOUNTED 115V RECEPTACLE. RECEPTACLE TO BE FIELD WIRED.  
5. PROVIDE HOT GAS REHEAT COIL (HUMIDITROL) AND HUMIDITY CONTROLS.  
6. PROVIDE HIGH STATIC DRIVE.  
7. PROVIDE 2" PLEATED AIR FILTERS.  
8. PROVIDE ONE SET OF EXTRA FILTERS.  
9. PROVIDE FACTORY INSTALLED SMOKE DETECTOR IN THE SUPPLY DUCT.  
10. HINGED ACCESS PANELS.  
11. PROVIDE CO2 SENSOR EG T81000-D-LN CO2.  
12. PROVIDE SMOKE DETECTOR TEST AND RESET STATION (BE RTS2-AOS).  
13. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR PRIOR TO PLACING ORDER FOR EQUIPMENT.  
14. PROVIDE FULL PERIMETER ROOF CURB, AND PROGRAMMABLE THERMOSTAT, HONEYWELL VISONPRO 8000, NONADJUSTABLE TEMPERATURE SENSOR COSNZN01AE2 AND WALL MOUNTED HUMIDITY SENSOR.

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NEW RETAIL BUILDING  
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03/14/17 BID ISSUANCE  
REVISIONS: ADDENDA #1

ISSUED: 03/10/2017

HVAC -  
Notes &  
Schedules

M001

Project: 17-130