

HVAC NOTES:

- ALL WORK SHALL BE PERFORMED PER THE LATEST EDITIONS OF NFPA 90A & 91, THE NATIONAL ELECTRICAL CODE, THE INTERNATIONAL MECHANICAL CODE AND ALL APPLICABLE STATE & LOCAL CODES & LATEST STATE AMENDMENTS. ALL PERMITS & FEES SHALL BE PAID BY THE HVAC CONTRACTOR.
- PLANS ARE DIAGRAMMATIC & SHOW THE GENERAL LOCATION OF THE EQUIPMENT & DUCTWORK. REFER TO THE ARCHITECTURAL DRAWINGS FOR DIMENSIONS & DETAILS REGARDING BUILDING CONSTRUCTION. DRAWINGS ARE NOT TO BE SCALED & ALL DIMENSIONS & LOCATIONS SHALL BE VERIFIED AT THE BUILDING SITE BEFORE FABRICATION & EQUIPMENT/DUCT PURCHASES. REPORT ANY ERRORS FOUND WITH THESE PLANS TO NOTIFY ARCHITECT IMMEDIATELY PRIOR TO BID FOR RESOLUTION & CLARIFICATION. COORDINATE EXACT LOCATION OF HVAC EQUIPMENT WITH GENERAL CONTRACTOR & ARCHITECT. CLOSELY COORDINATE ALL WORK WITH OTHER TRADES. REVIEW THE ARCHITECTURAL PLANS FOR MOUNTING HEIGHTS & ELEVATIONS REGARDING LOUVERS, GRILLES, LIGHTS OR OTHER CEILING MOUNTED ITEMS. IF THE HVAC CONTRACTOR INSTALLS HIS WORK PRIOR TO COORDINATING WITH ALL OTHER TRADES OR AS TO CAUSE ANY INTERFERENCE WITH WORK OF OTHER TRADES, HE SHALL MAKE NECESSARY CHANGES TO THE WORK OR CORRECT THE CONDITION WITHOUT EXTRA CHARGE. PROVIDE DUCT OFFSETS, DUCT ELEVATION CHANGES & DUCT REROUTING AS NEEDED TO AVOID CONFLICTS & INTERFERENCES. GENERAL CONTRACTOR TO PROVIDE FRAMED OPENINGS REQUIRED FOR DUCT/GRILLE/DIFFUSER/EQUIPMENT INSTALLATION THRU FLOOR & CEILING JOISTS. NOTIFY ARCHITECT/ENGINEER OF MAJOR CONFLICTS. THE HVAC CONTRACTOR IS RESPONSIBLE FOR REVIEWING THE DRAWINGS TO DETERMINE THE QUANTITY OF ALL MECHANICAL ITEMS REQUIRED. THE SYMBOLS SHOWN ON SCHEDULES DEFINE THE TYPE OF EQUIPMENT & NOT THE QUANTITY.
- ALL DUCTWORK & ACCESSORIES SHALL BE FABRICATED, SUPPORTED & INSTALLED PER ALL APPLICABLE ITEMS & REQUIREMENTS IN THE SMACNA HVAC DUCT CONSTRUCTION STANDARDS, 2005 EDITION, FOR 1" W.G., & SEAL CLASS A. SUPPORT ANY EXTERIOR DUCT PER THE LATEST SMACNA INDUSTRIAL ROUND & RECTANGULAR DUCT STANDARDS. SEAL ALL LONGITUDINAL, CIRCUMFERENTIAL & FITTING GORES WITH DUCT SEALANT. INSULATED FLEX FOR RUN-OUTS ONLY TO BE HART & COOLEY F216, R6.0 OR EQUAL. RUN-OUT LENGTH NOT TO EXCEED 6 FT. IN LENGTH. FLEX DUCT SIZE SHALL BE SAME AS TAKE-OFF DUCT SIZE. INSTALL VOLUME DAMPERS AT ALL SUPPLY AIR DEVICES, OUTSIDE AIR DUCTS & RETURN AIR DEVICES WHERE INDICATED.
- INSULATE ALL DUCTWORK (EXCLUDING INSULATED FLEX & DUCT WITHIN CONDITIONED SPACE) WITH 2 INCH THICK (R5 MIN.) FIBERGLASS BLANKET WITH FRK VAPOR BARRIER FACING. MIN. K @ 75 DEG. F SHALL BE 0.3 PER ASTM C158 & MIN. DENSITY SHALL BE 0.75 LB/CU. FT. SEAL ALL JOINTS WITH 3 INCH WIDE FSK TAPE TO MATCH VAPOR BARRIER. WHERE INSULATION IS REQUIRED ON EXTERIOR DUCT, PROVIDE/INSTALL WATERPROOF INSULATION SYSTEM W/ VAPOR BARRIER, RB MIN.
- DUCT SIZES MAY BE ALTERED AS LONG AS THE SAME CROSS SECTIONAL AREA IS MAINTAINED IN ORDER TO AVOID INTERFERENCES & CONFLICTS. COORDINATE FINAL DUCT LAYOUT WITH ALL OTHER TRADES & STRUCTURAL DRAWINGS & STRUCTURAL SHOP DRAWINGS PRIOR TO HVAC PROCUREMENT TO AVOID REWORK, INTERFERENCES & CONFLICTS.
- INSTALL ALL MECHANICAL EQUIPMENT IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. PROVIDE/INSTALL ALL COMPONENTS WHETHER SPECIFICALLY INDICATED ON DRAWINGS OR NOT THAT ARE NEEDED TO RESULT IN FULLY FUNCTIONAL HVAC SYSTEMS. INSTALL TRAPPED CONDENSATE DRAINS ON UNITS PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. ROUTE DRAIN & SPILL ON GRADE OR TO PLUMBING DRAIN WITH ELBOW TURNED DOWN. DRAIN LINE SHALL BE SCH 40 PVC WITH SOLVENT WELD JOINTS & WITH A 3 INCH MIN. TRAP. INSULATE DRAIN WITH 0.5 INCH THICK ARMAFLEX OR EQ. ADJUST ELEVATIONS OF EQUIPMENT REQUIRING CONDENSATE DRAINS TO ENSURE GRAVITY DRAINAGE. OTHERWISE PROVIDE/INSTALL CONDENSATE PUMPS. IF CONDENSATE PUMPS ARE INSTALLED COORDINATE POWER REQUIREMENTS WITH ELECTRICAL CONTRACTOR. PROVIDE CONTACTORS FOR FANS/EQUIPMENT IF NEEDED.
- EQUIPMENT MODEL NUMBERS ARE MINIMUM ACCEPTABLE SPECIFICATIONS. DIFFERENT MANUFACTURERS WITH EQUAL OR BETTER PERFORMANCE ARE ACCEPTABLE. FINAL APPROVAL BY GENERAL CONTRACTOR/HVAC CONTRACTOR TO VERIFY ALL EQUIPMENT ELECTRICAL REQUIREMENTS W/ ELECTRICAL CONTRACTOR PRIOR TO EQUIPMENT PROCUREMENT.
- ALL 90 DEGREE RECTANGULAR ELBOWS SHALL HAVE TURNING VANES.
- PROVIDE PROGRAMMABLE COMMERCIAL AUTO CHANGEOVER TYPE THERMOSTAT. CONTROL WIRING SHALL BE 18 GAUGE THERMOSTAT CABLE. MOUNT THERMOSTAT 5'-0" ABOVE FINISHED FLOOR. THERMOSTAT TO ENABLE OCCUPIED & UNOCCUPIED CONTROL MODES. FANS TO OPERATE TO ENSURE PROPER SPACE VENTILATION DURING OCCUPIED MODE & FANS TO BE OFF DURING UNOCCUPIED MODE. THERMOSTATS TO HAVE REMOTE SENSORS MOUNTED IN THE RETURN DUCT FOR EACH UNIT.
- ALL DUCT DIMENSIONS ARE CLEAR INSIDE DIMENSIONS.
- ALL SYSTEMS & AIRFLOWS SHALL BE ADJUSTED & BALANCED AFTER COMPLETE INSTALLATION & WITH ALL EXHAUST FANS ENERGIZED. AN INDEPENDENT TESTING AND BALANCING AGENCY CERTIFIED BY THE ABC OR NEBB SHALL BE ENGAGED TO TEST AND BALANCE THE HVAC SYSTEMS. SYSTEMS SHALL BE BALANCED TO PLUS/MINUS 10% OF DESIGN REQUIREMENTS. THE CONTRACTOR SHALL PLACE ALL SYSTEMS AND EQUIPMENT INTO FULL OPERATION FOR TESTING AND BALANCING. ONE COPY OF THE FINAL TEST AND BALANCE REPORT WITH THE ABC NATIONAL PERFORMANCE GUARANTY OR NEBB CONFORMANCE CERTIFICATE SHALL BE SENT DIRECTLY TO THE ARCHITECT. PROVIDE FIVE (5) ADDITIONAL COPIES TO THE CONTRACTOR. PROVIDE VOLUME DAMPERS FOR ALL BRANCH LINES TO AIR DEVICES WHETHER INDICATED ON PLANS OR NOT WHERE NEEDED TO PERFORM FINAL AIR BALANCING.
- FILTERS SHALL BE LOCATED INSIDE AIR HANDLERS & SHALL BE DISPOSABLE TYPE. INSTALL CLEAN FILTERS AT COMPLETION OF ALL CONSTRUCTION.
- PROVIDE FLEXIBLE CONNECTIONS TO ALL AIR HANDLING EQUIPMENT.
- PROVIDE SPACING BETWEEN/AROUND ALL HVAC EQUIPMENT TO ALLOW MAINTENANCE CLEARANCES AND FREE AIR FLOW.
- REFER TO ARCHITECTURAL DRAWINGS, ELECTRICAL LIGHTING PLANS & REFLECTED CEILING PLANS FOR FINAL LOCATIONS OF CEILING MOUNTED AIR DEVICES & EQUIPMENT.
- ALL ALTERNATES DESIRED BY THE HVAC CONTRACTOR SHALL BE DOCUMENTED AND SENT TO THE ARCHITECT 10 BUSINESS DAYS PRIOR TO BID DATE.
- REFRIGERANT PIPING (IF NEEDED) SHALL BE "ACR" WITH 15% SILVER SOLDER JOINTS. INSULATE SUCTION LINE WITH 0.75 INCH THICK ARMAFLEX INSULATION. PURGE TUBING WITH DRY NITROGEN WHILE BRAZING. INSULATION JOINTS SHALL BE BUTTED & GLUED IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. INSULATE & INSTALL TUBING & INSULATION PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. IF THESE SPECIFICATIONS CONFLICT WITH VENDOR REQUIREMENTS INSTALL IN ACCORDANCE WITH VENDOR REQUIREMENTS.
- IF HVAC CONTRACTOR DESIRES TO VALUE ENGINEER THE DUCT SYSTEM(S) DESIGN, THE HVAC CONTRACTOR SHALL BEAR ALL COSTS REQUIRED TO REVISE ALL AFFECTED CONSTRUCTION DOCUMENTS FOR RESUBMITAL TO ALL APPROVING PARTIES. ANY DESIRE TO VALUE ENGINEER SHALL BE DOCUMENTED VIA A FORMAL RFI DOCUMENT. HVAC CONTRACTOR TO COORDINATE PROPOSED CHANGES WITH ALL OTHER AFFECTED TRADES.
- THE MECHANICAL/HVAC CONTRACTOR SHALL COORDINATE & CONFIRM ALL ELECTRICAL REQUIREMENTS & SPECIFICATIONS WITH THE ELECTRICAL CONTRACTOR IN WRITING ONCE THE PROJECT HAS BEEN AWARDED.

ROOFTOP HEAT PUMP SCHEDULE													
MARK	AREA SERVED	MFG./MODEL NO.	COOLING, BTUH, NOM	HEATING, BTUH, NOM	STRIP, KW, NOM	CFM, NOM	ELEC.	MAX FUSE	MCA	EER	COP	HP	WT LBS
RTU1	DINING	CARRIER 50TCQD08 2 STAGE	88,000	86,000	208/230V	3000	208/230/3/60	110/125	208/230V	103/112	11.2	3.4	900
RTU2	KITCHEN- W/ MED STATIC DRIVE	CARRIER 50TCQD09 2 STAGE	99,000	96,000	18.6/24.8	3400	208/230/3/60	110/125	105/115	11.2	3.3	1.5	1300

ROOFTOP UNITS SHALL BE COMPLETE W/ ROOF CURBS AND ALL INSTALLATION ACCESSORIES REQUIRED FOR COMPLETE INSTALLATION. PROVIDE DUCT SMOKE DETECTOR IN SUPPLY FOR ALL UNITS RATED OVER 2000CFM. ANY ROOFING MATERIAL MODIFICATIONS SHALL NOT VOID ROOF WARRANTY. OPTIONS TO INCLUDE COMPLETE CURB SYSTEM OR CURB ADAPTER, HAIL GUARD, OUTSIDE AIR CONTROLS, SINGLE POINT ELECTRICAL CONNECTION & PROGRAMMABLE THERMOSTAT

EXHAUST FAN SCHEDULE							
MARK	MFG./MODEL NO.	CFM NOM.	IN. S.P.	AMPS	ELEC.	WATTS	OPTIONS/ACCESSORIES
EF	GREENHECK SP-A50	50	.125	.31	115/60/1	16	ROOF CAP & BACKDRAFT DAMPER

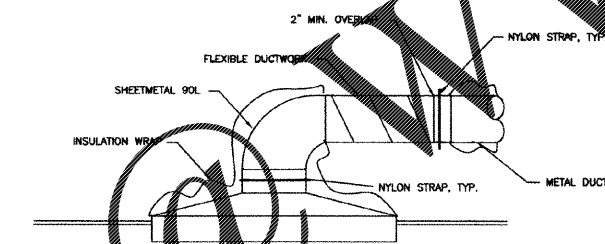
INTERLOCK WITH LIGHT SWITCHES.

DIFFUSER, GRILLE, AND REGISTER SCHEDULE			
CALLOUT	AIRFLOW RANGE (CFM)	FACE SIZE (IN)	MODEL
B	101 - 200	24x24	TITUS TMS 24X24
C	201 - 300	24x24	TITUS TMS 24X24
C-RD	201 - 300	21ø	TITUS TMR
D-RD	301 - 400	25ø	TITUS TMR
E	401 - 500	24x24	TITUS TMS 24X24
R	0 - 2200	24x24	TITUS 50F 24X24
R1	2201 - 4300	48x24	TITUS 50F 24X48

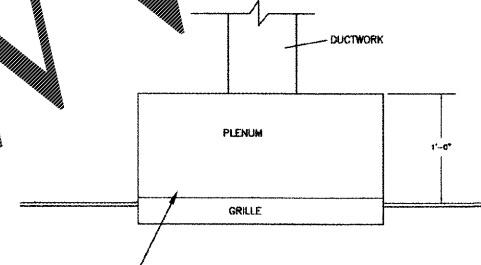
NECK SIZE SAME AS RUNOUT SIZE. PROVIDE PLASTER RINGS FOR DRYWALL CEILINGS.

HVAC LEGEND

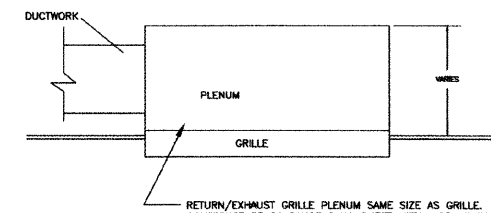
- SUPPLY
- RETURN
- ▷ TRANSITION
- VOLUME DAMPER
- Ⓢ THERMOSTAT
- Ⓢ DIFFUSER
- Ⓢ CFM
- Ⓢ DUCT SMOKE DETECTOR
- Ⓢ AIR PURIFIER, GLORAM PLASMA SOLUTIONS MODEL RN



FLEXIBLE DUCTWORK CONNECTION DETAIL
NO SCALE



RETURN/EXHAUST GRILLE PLENUM DETAIL 1
NO SCALE



RETURN/EXHAUST GRILLE PLENUM DETAIL 2
NO SCALE

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Professional Engineer
C. GREEN, III
4/13/16

DIABLOS SOUTHWESTERN GRILLE

3102 Washington Rd.
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Date: 09.11.15

Approved by:

Print Record
11-19-15

Drawn By:
Checked by:
Date: 3/16/16

Revisions

Sheet Title
HVAC NOTES & SCHEDULES

Sheet No.
M-2

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