



**FIRST FLOOR MECHANICAL HYDRONIC PLAN - ENLARGED MECHANICAL ROOM 109 & BOILER ROOM**

**109B**  
Scale: 1/2" = 1'-0"

**MECHANICAL KEYED NOTES**

- 1 PROVIDE AND INSTALL NEW CHILLED WATER FAN COIL UNIT. PROVIDE NEW SUPPLY AND RETURN DUCTWORK AND ADJUSTABLE THERMOSTAT/SENSOR AS SHOWN. MAINTAIN MAINTENANCE ACCESS CLEARANCES FOR UNIT. PROVIDE TRANSITIONS/ELBOWS AS REQUIRED TO ROUTE DUCTWORK AS SHOWN. PROVIDE WITH INTEGRAL CONDENSATE PUMP. ROUTE UNIT'S FULL SIZED INSULATED CONDENSATE DRAIN TO MOP SINK, HUB DRAIN, FLOOR DRAIN IN MECHANICAL ROOM, OR OTHER CODE APPROVED LOCATION. PROVIDE OVERFLOW DRAIN PAN WITH FLOAT SWITCH AND LOCAL ALARM TO SHUT UNIT OFF IF WATER IS DETECTED IN PAN. PROVIDE SCREWCAP NIPPLE FOR DRAINING OVERFLOW DRAIN PAN. PROVIDE UNIT WITH ISOLATION VALVES. REFER TO SCHEDULE, DETAILS AND SPECIFICATIONS FOR MORE INFORMATION.
- 2 PROVIDE AND INSTALL NEW EXHAUST AIR FAN. FAN TO BE INTERLOCKED WITH FAN VFD AND ASSOCIATED REFRIGERANT DETECTOR. FAN SHALL BE SET TO A MINIMUM VENTILATION SETPOINT (400 CFM) AND INCREASE TO DESIGN CFM RATE WHEN REFRIGERANT IS DETECTED. REFER TO SCHEDULE AND DETAILS FOR MORE INFORMATION.
- 3 PROVIDE AND INSTALL NEW CONDENSING UNIT ON WALL HIGH IN SPACE. FIELD VERIFY EXACT FINAL ROUTING BETWEEN UNIT AND DX COIL. SIZE REFRIGERANT PIPING PER MANUFACTURER'S REQUIREMENTS. MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCES AROUND CONDENSER. UNIT(S) TO BE MOUNTED ON WALL PER MANUFACTURER'S REQUIREMENTS.
- 4 NEW INDOOR WALL MOUNTED EVAPORATOR UNIT. COORDINATE FINAL LOCATION IN THE FIELD. REFER TO MECHANICAL HYDRONIC/REFRIGERANT PIPING PLANS FOR PIPE ROUTING. MAINTAIN MAINTENANCE ACCESS CLEARANCES FOR UNIT. ROUTE UNIT'S FULL SIZED CONDENSATE DRAIN LINE TO NEW INSULATED HUB DRAIN, MOP SINK, MECHANICAL ROOM FLOOR DRAIN OR OTHER CODE APPROVED LOCATION. PROVIDE WITH INTEGRAL CONDENSATE PUMP. PROVIDE WITH FACTORY PROGRAMMABLE THERMOSTAT.
- 5 PROVIDE AND INSTALL NEW WATER-COOLED CHILLER. COORDINATE EXACT FINAL LOCATION IN THE FIELD. UNIT TO BE INSTALLED ON HOUSEKEEPING PAD. COORDINATE NEW ELECTRICAL CONNECTION(S) WITH THE ELECTRICAL CONTRACTOR. REFER TO CHILLER PIPING SCHEMATIC, SCHEDULE, DETAILS AND SPECIFICATIONS FOR MORE INFORMATION.
- 6 PROVIDE AND INSTALL NEW COORDINATE EXACT FINAL LOCATION IN THE FIELD. UNIT TO BE INSTALLED ON HOUSEKEEPING PAD. ROUTE UNIT'S FULL SIZED INSULATED CONDENSATE DRAIN LINE TO FLOOR DRAIN. COORDINATE NEW ELECTRICAL CONNECTIONS WITH THE ELECTRICAL CONTRACTOR. REFER TO HOT WATER PIPING SCHEMATIC, SCHEDULE, DETAILS AND SPECIFICATIONS FOR MORE INFORMATION.
- 7 PROVIDE NEW INLINE CHILLED WATER PUMP SUSPENDED FROM STRUCTURE HIGH IN SPACE. PROVIDE WITH NEW SUCTION DIFFUSER, FLEX CONNECTION, PIPE AND RELATED ACCESSORIES TO TRANSITION AND CONNECT TO NEW PIPE AND ISOLATION VALVES. PROVIDE NEW VFD. COORDINATE WITH ELECTRICAL AND CONTROLS CONTRACTOR FOR EXACT FINAL VFD LOCATION AND ACCESSORIES. REFER TO DETAILS AND SEQUENCE OF OPERATIONS. TRANSITION PIPE AS REQUIRED TO MAKE CONNECTIONS AT PUMP.
- 8 PROVIDE NEW INLINE HOT WATER PUMP SUSPENDED FROM STRUCTURE HIGH IN SPACE. PROVIDE WITH NEW SUCTION DIFFUSER, FLEX CONNECTION, PIPE AND RELATED ACCESSORIES TO TRANSITION AND CONNECT TO NEW PIPE AND ISOLATION VALVES. PROVIDE NEW VFD. COORDINATE WITH ELECTRICAL AND CONTROLS CONTRACTOR FOR EXACT FINAL VFD LOCATION AND ACCESSORIES. REFER TO DETAILS AND SEQUENCE OF OPERATIONS. TRANSITION PIPE AS REQUIRED TO MAKE CONNECTIONS AT PUMP.
- 9 PROVIDE AND INSTALL CHILLED WATER PUMP VARIABLE FREQUENCY DRIVE (VFD) IN MECHANICAL ROOM. COORDINATE EXACT MOUNTING LOCATION TO MAINTAIN PROPER CLEARANCES RECOMMENDED BY MANUFACTURER.
- 10 PROVIDE AND INSTALL HOT WATER PUMP VARIABLE FREQUENCY DRIVE (VFD) IN BOILER ROOM. COORDINATE EXACT MOUNTING LOCATION TO MAINTAIN PROPER CLEARANCES RECOMMENDED BY MANUFACTURER.
- 11 PROVIDE AND INSTALL EXHAUST FAN VARIABLE FREQUENCY DRIVE (VFD) IN MECHANICAL ROOM. COORDINATE EXACT MOUNTING LOCATION TO MAINTAIN PROPER CLEARANCES RECOMMENDED BY MANUFACTURER. VFD SHALL MODULATE BASED UPON REFRIGERANT DETECTOR/SENSOR.
- 12 PROVIDE AND INSTALL SHUT-OFF VALVE AND CAP FOR TEMPORARY CONNECTION. COORDINATE WITH ALL TRADES TO MAINTAIN PROPER CLEARANCE FOR CONNECTION.
- 13 PROVIDE AND INSTALL EMERGENCY SHUTOFF "PANIC BUTTON" IN BOILER ROOM. COORDINATE WITH MANUFACTURER AND ARCHITECT FOR FINAL LOCATION PRIOR TO MOUNTING.
- 14 VERIFY SERVICE CLEARANCE WITH EQUIPMENT MANUFACTURER. COORDINATE WITH ALL TRADES NOT TO OBSTRUCT. CLEARANCE SHALL ADHERE TO SPECIFICATIONS OR COMPLY WITH THE MANUFACTURER'S RECOMMENDATION, WHICHEVER IS GREATER.
- 15 ROUTE NEW REFRIGERANT PIPING HIGH TO STRUCTURE. COORDINATE EXACT ROUTING BETWEEN EVAPORATOR AND RACK MOUNTED CONDENSER IN MECHANICAL ROOM. SIZE PER MANUFACTURER'S REQUIREMENTS. FIELD VERIFY ALL WORK IN FIELD.

**MECHANICAL GENERAL NOTES**

- 1 ALL DUCT SIZES SHOWN ARE INSIDE CLEAR. INCREASE ACCORDINGLY WHERE INTERIOR LINER IS SHOWN OR SPECIFIED.
- 2 COORDINATE IN THE FIELD THE EXACT LOCATION OF ALL CEILING MOUNTED GRILLES AND DIFFUSERS WITH LIGHT FIXTURES AND ARCHITECT'S REFLECTED CEILING PLAN.
- 3 CONTRACTOR TO PROPERLY SEAL ALL NEW OR MODIFIED DUCTWORK.
- 4 SHOP PRIME ALL MISCELLANEOUS INTERIOR BRACKETS AND HANGERS UNLESS GALVANIZED OR STAINLESS STEEL. ALL EXTERIOR BRACKETS, CLAMPS, AND HANGERS SHALL BE HOT DIPPED GALVANIZED. COAT ALL CUT ENDS AND WELDS WITH ZRC COLD GALVANIZING COMPOUND.
- 5 FIELD COORDINATE WITH STRUCTURAL. OFFSET AND TRANSITION DUCTWORK AS REQUIRED.
- 6 THESE CONSTRUCTION DRAWINGS ARE DIAGRAMMATIC, AND DO NOT NECESSARILY REFLECT ACTUAL DIMENSIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD-VERIFY ALL DIMENSIONS AND COORDINATE PLACEMENT OF ALL EQUIPMENT AND ROUTING OF ALL PIPING AND/OR DUCT SYSTEMS.
- 7 ALL CONSTRUCTION IS TO CONFORM TO MORE STRINGENT OF PLAN, SPECIFICATION REQUIREMENTS AND LOCAL CODES. CONFORM TO SMACNA HVAC CONSTRUCTION STANDARDS AS A MINIMUM WHERE NO OTHER SPECIFICATIONS OR CODE REQUIREMENTS APPLY.
- 8 RETURN AIR IS THROUGH RETURN GRILLES AND BACK THROUGH RETURN AIR OPENINGS TO THE MECHANICAL ROOM. CONTRACTOR TO MAINTAIN RETURN AIR PATH. PROVIDE OPENINGS OR RETURN AIR BOOTS AS REQUIRED.
- 9 ALL DUCTWORK 15 FEET DOWNSTREAM OF AHU'S AND 10 FEET DOWNSTREAM OF FPH'S TO BE PROVIDED WITH KNAUF PERFORMANCE+ INTERNAL LINER OR APPROVED EQUAL.
- 10 ALL TRANSFER AIR DUCTS/BOOTS TO BE PROVIDED WITH INTERNAL LINING.
- 11 PROVIDE RETURN AIR BOOTS ON ALL RETURN GRILLES FOR OFFICES, CONFERENCE ROOMS, ETC ON 4TH FLOOR.