HVAC ABBREVIATIONS

AAV	AUTOMATIC AIR VENT
AC	AIR COMPRESSOR
ACCU	AIR COOLED CONDENSING UNIT
ACS DR	ACCESS DOOR
ACS PNL	ACCESS PANEL
ACV	AUTOMATIC CONTROL VALVE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AFS	AIR FLOW STATION
AHU	AIR HANDLING UNIT
ALUM	ALUMINUM
AS	AIR SEPARATOR
ASC	ABOVE SUSPENDED CEILING
AVG	AVERAGE
BAV	BALANCING VALVE
BC	BOILER CIRCULATOR
BB-E	BASEBOARD - ELECTRIC
BFP	BACKFLOW PREVENTER
BFV	BUTTERFLY VALVE
BFWP	BOILER FEED WATER PUMP
BHP	BRAKE HORSEPOWER
BV	BALL VALVE
CA	COMPRESSED AIR
CA	COMBUSTION AIR
CEB	CONCRETE EQUIPMENT BASE
CFM	CUBIC FEET PER MINUTE
CHKV	CHECK VALVE
CHWP	CHILLED WATER CIRCULATING PUMP
CIR	CAST IRON RADIATOR
COM	COMMON
CRP	CONDENSATE RETURN PUMP
CT	COOLING TOWER
CUH	CABINET UNIT HEATER
CUV	CLASSROOM UNIT VENTILATOR
CV	CONTROL VALVE
DB	DRY BULB
DCI	DUCT COVERING INSULATION
DF	DESTRATIFICATION FAN
DLI	DUCT LINING INSULATION
DSS	DUCTLESS SPLIT SYSTEM AIR CONDITIONER
DX	DIRECT EXPANSION
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
EDR	EQUIVALENT DIRECT RADIATION
ET	EXPANSION TANK
EWT	ENTERING WATER TEMPERATURE
F	DEGREES FAHRENHEIT
FBO	FURNISHED BY OTHERS
FCU	FAN COIL UNIT
FFA	FROM FLOOR ABOVE
FFB	FROM FLOOR BELOW
FID	FIRE DAMPER
FSD	FIRE/SMOKE DAMPER
FTR	FINNED TUBE RADIATOR
FURN	FURNACE
GC	GENERAL CONTRACTOR
GLV	GLOBE VALVE
GPM	GALLONS PER MINUTE
GTV	GATE VALVE
GVTR	GAS VENT THROUGH ROOF
H	HUMIDIFIER
HC	HEATING COIL
HEX	HEAT EXCHANGER
HP	HORSEPOWER
HRU	HEAT RECOVERY UNIT
HSTAT	HUMIDISTAT
HV	HEATING AND VENTILATING UNIT
HWB	HOT WATER BOILER
HWCP	HOT WATER CIRCULATING PUMP
LAT	LEAVING AIR TEMPERATURE
LRI	LOUVERED ROOF INTAKE
LRV	LOUVERED ROOF VENT
LWT	LEAVING WATER TEMPERATURE
MAU	MAKE-UP AIR UNIT
MAV	MANUAL AIR VENT
MC	MECHANICAL CONTRACTOR
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
O	OPEN
OA	OUTSIDE AIR
OC	ON CENTER
OED	OPEN ENDED DUCT
PC	PLUMBING CONTRACTOR
PLV	PLUG VALVE
PRV	PRESSURE REDUCING VALVE
PTAC	PACKAGE TERMINAL AIR CONDITIONER
RA	RETURN AIR
RAF	RETURN AIR FAN
RH	RELATIVE HUMIDITY
RHC	REHEAT COIL
RLL	REFRIGERANT LIQUID LINE
RSL	REFRIGERANT SUCTION LINE
RTU	ROOF TOP UNIT
RV	ROOF VENT
SA	SUPPLY AIR
SD	SMOKE DAMPER
SF	SUPPLY FAN
SP	STATIC PRESSURE
STN	STRAINER
SUH	SUSPENDED UNIT HEATER
TFA	TO FLOOR ABOVE
TFB	TO FLOOR BELOW
UH	UNIT HEATER
UTR	UP THROUGH ROOF
UV	UNIT VENTILATOR
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER
VIB ISO	VIBRATION ISOLATOR
WB	WET BULB
WC	WATER COLUMN
WCHRU	WATER CHILLER
WIV	WATER INLET VALVE
WPD	WATER PRESSURE DROP

GENERAL NOTES

1. THIS LEGEND SHEET IS FOR THE HVAC CONTRACTOR REFERENCE ONLY. NOT ALL SYMBOLS AND/OR ABBREVIATIONS MAY APPLY TO THIS PARTICULAR PROJECT. ANY ADDITIONS OR OMISSIONS FROM THIS LEGEND SHEET DOES NOT IMPLY INCLUSION AND/OR EXCLUSION OF ANY PARTICULAR ITEM FROM THE PROJECT.
2. THE PLANS ARE DIAGRAMMATIC AND INDICATE ONLY THE SIZE AND GENERAL ARRANGEMENT OF PIPING AND EQUIPMENT. EXACT LOCATION OF ALL ELEMENTS SHALL BE DETERMINED AS WORK PROGRESSES, IN COOPERATION AND COORDINATION WITH THE WORK OF ALL OTHER TRADES. IT IS NOT INTENDED TO SHOW EVERY ITEM OF WORK OR MINOR PIECE OF EQUIPMENT, BUT THE CONTRACTOR SHALL FURNISH AND INSTALL WITHOUT ADDITIONAL REMUNERATION ANY COMPONENT NECESSARY TO COMPLETE THE SYSTEM IN ACCORDANCE WITH THE BEST PRACTICE OF THE TRADE.
3. ITEMS OF WORK OR EQUIPMENT SHOWN ON THE DRAWINGS ONLY, OR CALLED FOR IN THE SPECIFICATIONS ONLY, SHALL BE FURNISHED AND INSTALLED IN THE SAME MANNER AS IF THEY APPEARED ON BOTH THE DRAWINGS AND SPECIFICATIONS.
4. DRAWINGS DO NOT INDICATE ALL OFFSETS, CHANGES IN ELEVATIONS, ETC. WHICH MAY BE REQUIRED. THE CONTRACTOR SHALL MAKE SUCH CHANGES IN PIPING AND LOCATION OF EQUIPMENT, ETC. TO ACCOMMODATE WORK WITH THAT OF OTHER CONTRACTORS.
5. INSTALL EQUIPMENT, DUCTWORK, AND PIPING TO AVOID INTERFERENCE WITH THE OPERATION OR SERVICING AND MAINTENANCE OF EQUIPMENT.
6. HVAC CONTRACTOR IS RESPONSIBLE TO PROVIDE ACCESS PANELS AND DOORS WHERE THEY ARE NEEDED TO GAIN ACCESS TO CONCEALED EQUIPMENT.
7. ALL COSTS FOR CUTTING, PATCHING AND PAINTING OF EXISTING WALLS, CEILINGS AND FLOORS TO ACCOMMODATE THE INSTALLATION OF HVAC WORK SHALL BE THE RESPONSIBILITY OF THE HVAC CONTRACTOR UNLESS INDICATED OTHERWISE. MATERIALS FOR RESTORATION OF EXISTING SURFACES SHALL MATCH THE EXISTING MATERIALS.
8. PIPES AND/OR DUCTS PENETRATING FIRE WALLS AND FLOORS SHALL BE FIRESTOPPED AS SPECIFIED. REFER TO THE ARCHITECTURAL DRAWINGS FOR FIRE WALL AND FLOOR LOCATIONS.
9. ALL DUCT SIZES SHOWN ON DRAWINGS INDICATE CLEAR INSIDE DIMENSIONS.
10. ALL PHYSICAL ATTRIBUTES OF EQUIPMENT AND DEVICES ARE BASED ON THOSE MANUFACTURERS LISTED IN THE SPECIFICATIONS AND/OR THE EQUIPMENT SCHEDULES. THE RESPECTIVE CONTRACTORS ARE RESPONSIBLE FOR ALL CHANGES BROUGHT ABOUT BY USE OF ITEMS BY OTHER MANUFACTURERS. THE ARCHITECT/ENGINEER HAS RESERVED THE RIGHT TO REJECT ITEMS BY OTHER MANUFACTURERS IF THOSE ITEMS DO NOT MATCH THE PHYSICAL ATTRIBUTES OF THE MANUFACTURERS LISTED.
11. COMPLY WITH THE 2025 GEORGIA STATE BUILDING CODES, ASHRAE 90.1-2016, AND OTHER APPLICABLE CODES.

HVAC SYMBOLS - DUCTWORK

- AIRFLOW - SUPPLY/OUTDOOR AIR
- AIRFLOW - RETURN/EXHAUST AIR
- RECTANGULAR DUCTWORK (FIRST NUMBER INDICATES VISIBLE DIMENSION) — 12"x8"
- ROUND DUCTWORK — 12"Ø
- FLAT OVAL DUCTWORK — 12"x8"
- "L" INDICATES LINED DUCTWORK — 12"x8"L
- FLEXIBLE DUCTWORK
- RECTANGULAR CEILING DIFFUSER (ARROWS INDICATE DIRECTION OF THROW)
- CIRCULAR CEILING DIFFUSER
- RETURN/EXHAUST REGISTER OR GRILLE
- LINEAR DIFFUSER
- SIDEWALL DIFFUSER, REGISTER OR GRILLE
- DESIGNATION / NECK SIZE OR CORE SIZE / CFM
- DIFFUSER, REGISTER OR GRILLE DESIGNATION TYPE X INDICATES:
  - CD - CEILING DIFFUSER
  - LD - LINEAR DIFFUSER
  - RCD - RECTANGULAR CEILING DIFFUSER
  - EG - EXHAUST GRILLE
  - ER - EXHAUST REGISTER
  - RG - RETURN GRILLE
  - RR - RETURN REGISTER
  - TG - TRANSFER GRILLE)
- WALL MOUNTED THERMOSTAT
- WALL MOUNTED REMOTE SENSOR THERMOSTAT
- WALL MOUNTED TEMPERATURE SENSOR
- WALL MOUNTED HUMIDISTAT

- RECTANGULAR/ROUND SUPPLY AIR DUCTWORK UP
- RECTANGULAR/ROUND RETURN OR EXHAUST AIR DUCTWORK UP
- RECTANGULAR/ROUND SUPPLY AIR DUCTWORK DOWN
- RECTANGULAR/ROUND RETURN OR EXHAUST AIR DUCTWORK DOWN
- RECTANGULAR ELBOW WITH TURNING VANES
- VOLUME DAMPER
- FIRE DAMPER — F.I.D.
- SMOKE DAMPER — S.D.
- MOTOR OPERATED DAMPER — M
- VAV BOX (X INDICATES BOX DESIGNATION) — X
- DUCT MOUNTED COIL
- FLEXIBLE DUCT CONNECTION
- SMOKE DETECTOR — S
- DUCT MOUNTED SENSOR — X
  X INDICATES:
  - SP - STATIC PRESSURE
  - T - TEMPERATURE
  - H - HUMIDITY
  - V - VELOCITY

HVAC SYMBOLS - CONTROLS

- DAMPER ACTUATOR
- OPPOSED BLADE DAMPER
- AVERAGING TEMPERATURE SENSOR — TS
- FREEZESTAT — TS
- PROBE TYPE TEMPERATURE SENSOR — TS
- SMOKE DETECTOR — SD
- HUMIDITY SENSOR — HS
- MOTOR STARTER
- HEATING COIL — H / C
- COOLING COIL — C / C
- DIRECT EXPANSION REFRIGERANT COIL — DX / C
- FIRE DAMPER
- ELEC/PNEU TRANSDUCER
- SPACE THERMOSTAT
- SPACE TEMPERATURE SENSOR — S
- STATIC PRESSURE SENSOR
- ROOM DIFFERENTIAL PRESSURE SENSOR
- TRANSFORMER
- CIRCULATING PUMP
- FAN

SHOP/COORDINATION DRAWINGS:

CONTRACTOR SHALL PROVIDE TO THE ENGINEER CAD-GENERATED (AUTOCAD 2013 OR NEWER) COORDINATION DRAWINGS AT ⅛" EQUALS 1 FOOT SCALE.

1. CONTRACTOR SHALL BE RESPONSIBLE TO:
   - A. FIELD VERIFY EXISTING CONDITIONS
   - B. PROVIDE LAYOUT OF ALL NEW EQUIPMENT, DUCTWORK (DOUBLE LINED) AND PIPING.
   - C. PROVIDE ELEVATIONS OF ALL DUCTWORK (TOP AND BOTTOM).
   - D. PROVIDE DIMENSIONS OF MAIN PIPE RUNS FROM BUILDING GRID LINES OR WALLS.
   - E. PENETRATIONS THROUGH FIRE-RATED AND OTHER PARTITIONS.
   - F. EQUIPMENT INSTALLATION BASED ON EQUIPMENT PURCHASED FOR PROJECT.

HVAC SYMBOLS - PIPING DESIGNATIONS

- EXISTING PIPING (REFER TO DESIGNATIONS BELOW FOR TYPE)
- BBD — BOILER BLOWDOWN PIPING TO BE REMOVED (REFER TO DESIGNATIONS BELOW FOR TYPE)
- CR — CONDENSATE RETURN
- D — DRAIN
- FW — FEEDWATER
- HWS — HOT WATER SUPPLY
- HWR — HOT WATER RETURN
- LPS — LOW PRESSURE STEAM
- MU — MAKE-UP WATER
- PD — PUMPED DISCHARGE
- CHWS — CHILLED WATER SUPPLY
- CHWR — CHILLED WATER RETURN
- CWS — CONDENSER WATER SUPPLY
- CWR — CONDENSER WATER RETURN
- POINT OF CONNECTION
- POINT OF DISCONNECTION

HVAC SYMBOLS - VALVES & SPECIALTIES

- SHUT-OFF VALVE (GATE, BUTTERFLY, BALL, ETC.)
- BALANCING VALVE (X INDICATES GPM)
- TWO-WAY AUTOMATIC CONTROL VALVE
- THREE-WAY AUTOMATIC CONTROL VALVE
- CHECK VALVE
- STRAINER
- GLOBE VALVE
- PRESSURE REDUCING VALVE
- LOCKING VALVE
- TRIPLE DUTY VALVE
- FLOW CONTROL VALVE
- RELIEF VALVE (X INDICATES T - TEMPERATURE, P - PRESSURE, PT - COMBINATION PRESS/TEMP) — X
- BRANCH CONNECTION - BOTTOM
- BRANCH CONNECTION - TOP
- ELBOW - TURNED DOWN
- ELBOW - TURNED UP
- CAP
- FLEXIBLE CONNECTOR
- DIRECTION OF FLOW
- DIRECTION OF DOWNWARD PITCH — P
- SENSOR/SWITCH (X INDICATES P - PRESSURE, T - TEMPERATURE, F - FLOW) — X
- GAUGE (X INDICATES T - TEMPERATURE, P - PRESSURE, F - FLOW) — X
- PRESSURE/TEMPERATURE TAP — PT

BROWN AND CALDWELL
900 HAMMOND DRIVE, SUITE 500
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wendel

GEORGIA REGISTERED PROFESSIONAL ENGINEER — RAYMOND F. JOHNSON, II

CONSTRUCTION DOCUMENTS
07/01/2026

NCWSA — NEWTON COUNTY WATER & SEWERAGE AUTHORITY

NCWSA OFFICE ADDITION

REVISIONS

REV	DATE	DESCRIPTION
1	7/1/26	PERMIT SET

LINE IS 2 INCHES AT FULL SIZE

DESIGNED: CJP
DRAWN: CJP
CHECKED: NBN
CHECKED:
APPROVED: RFJ

FILENAME

BC PROJECT NUMBER

CLIENT PROJECT NUMBER

MECHANICAL

SYMBOLS, NOTES, & ABBREVIATIONS

DRAWING NUMBER
M001