



HVAC LEGEND & ABBREVIATIONS

| SYMBOL | DESCRIPTION |
|--------|--|
| | RECTANGULAR AIR DUCT - FIRST DIMENSION IS SIDE SHOWN |
| | ROUND DUCT (A10) OR FLAT OVAL (A8) |
| | LINED DUCTWORK, DIMENSIONS ARE FOR DUCT FREE AREA |
| | AIR DUCT FLEXIBLE CONNECTOR |
| | SUPPLY OR OUTSIDE AIR RECTANGULAR DUCT RISE OR DROP |
| | RETURN AIR RECTANGULAR DUCT RISE OR DROP |
| | EXHAUST AIR RECTANGULAR DUCT RISE OR DROP |
| | 45° BRANCH TAKE-OFF WITH SPLITTER DAMPER AND CONTROL ROD |
| | SINGLE BLADE DAMPER |
| | FIRE DAMPER |
| | SMOKE DAMPER |
| | COMBINATION FIRE/SMOKE DAMPER |
| | MOTOR OPERATED DAMPER SAME SIZE AS DUCT UNLESS OTHERWISE NOTED |
| | DUCT-MOUNTED STATIC PRESSURE SENSOR |
| | MANUAL VOLUME DAMPER |
| | SMOKE DETECTOR |
| | BACKDRAFT DAMPER |
| | SQUARE ELBOW WITH TURNING VANES |
| | DUCT TRANSITION, RECTANGULAR TO ROUND OR OVAL |
| | DUCT TRANSITION, RECTANGULAR TO RECTANGULAR |
| | RADIAL ELBOW TAKE-OFF |
| | FLEX DUCT AT DIFFUSER |
| | ECCENTRIC REDUCER FLAT SIDE ON BOTTOM OR FLAT SIDE ON TOP |
| | CONCENTRIC REDUCER |
| | PIPE FLOW ARROW |
| | GRADE ARROW AND CATERS RISE OR DROP IN DUCT OR PIPE |
| | CONDENSATE DRAIN |
| | REFRIGERANT LIQUID |
| | REFRIGERANT SUCTION |
| | HUMIDITY SENSOR |
| | TEMPERATURE SENSOR |
| | CARBON DIOXIDE SENSOR |
| | ABOVE FINISHED FLOOR |
| | BOTTOM OF STRUCTURE |
| | MOTOR OPERATED DAMPER |

GENERAL NOTES (APPLICABLE TO ALL HVAC SHEETS)

- EXISTING EQUIPMENT, DUCTWORK AND PIPING TO REMAIN, UNLESS NOTED TO BE REMOVED.
- VERIFY LOCATIONS OF EXISTING EQUIPMENT, DUCTWORK AND PIPING PRIOR TO BEGINNING WORK.
- PROVIDE INSULATED FLEXIBLE DUCT TO DIFFUSER SAME SIZE AS DIFFUSER NECK SIZE WITH PAN-IN, SCOOP AND SINGLE BLADE DAMPER AT DIFFUSER TAKE-OFF.
- ALL EXISTING EQUIPMENT, DUCTWORK AND PIPING IS SHOWN SCREENED (GRAY). NEW EQUIPMENT, DUCTWORK AND PIPING SHOWN SOLID.
- RUNOUTS TO DIFFUSERS SHALL BE SAME SIZE AS DIFFUSER NECK, UNLESS OTHERWISE NOTED.
- ROUTE DUCTWORK AS TIGHT TO STRUCTURE AS POSSIBLE, UNLESS OTHERWISE NOTED.
- MAXIMUM FLEXIBLE DUCT RUNOUT TO BE FIVE FEET. USE GALVANIZED STEEL DUCT FOR INDIVIDUAL RUNOUTS OVER FIVE FEET.
- BALANCE AIR DISTRIBUTION SYSTEMS AS NOTED.
- UNLESS OTHERWISE NOTED, WALL MOUNTED THERMOSTATS AND SENSORS SHALL BE MOUNTED AT 4'-0" AFF.
- COORDINATE ALL LAY-IN CEILING DIFFUSERS WITH ARCHITECTURAL REFLECTED CEILING PLAN.
- PROTECT ALL MATERIALS AND EQUIPMENT FROM DAMAGE.
- CONTRACTOR SHALL PAINT ALL DUCTWORK VISIBLE THROUGH SUPPLY AND RETURN AIR OPENINGS AND GRILLES FLAT BLACK.

HVAC NARRATIVE

HVAC SYSTEM RENOVATION INCLUDES THE INSTALLATION OF THE FOLLOWING EQUIPMENT:

- NEW INDOOR CEILING CASSETTE VRF SYSTEMS TO CORRESPOND WITH NEW CLASSROOM AND OFFICE SPACES.
- NEW ABOVE CEILING DUCTED VRF SYSTEMS TO SERVE ART STORAGE AND PRE-K STORAGE AREAS.
- NEW ABOVE CEILING DUCTED VRF SYSTEM TO SERVE RECEPTION AREA AT ENTRY.
- NEW VAV AIR HANDLING UNIT WITH MULTIPLE VAV TERMINAL UNITS TO SERVE SECOND FLOOR DATA/MODEL CLASSROOMS AND ADJACENT OFFICES.
- NEW GYMNASIUM ROOF TOP UNITS TO SERVE MAIN PLAY ROOM.
- NEW GYMNASIUM EXHAUST FANS FOR GYMNASIUM TOILET ROOMS.
- NEW EXHAUST TO SERVE GYMNASIUM ELECTRICAL ROOM.
- NEW SPLIT SYSTEM TO SERVE IDF CLOSET AT GYMNASIUM.
- NEW EXHAUST FANS FOR ENTRY/AUDITORIUM TOILET ROOMS.
- NEW EXHAUST FAN FOR ART KILN ROOM AND HOOD.

HVAC DEMOLITION WILL INCLUDE THE FOLLOWING ITEMS:

- DEMO EXISTING MEDIA CENTER SPLIT SYSTEM AND AIR DISTRIBUTION/DUCTWORK ABOVE MEDIA CENTER CEILING.
- DEMO EXISTING VRF INDOOR UNITS THAT ARE AFFECTED BY ROOM DEMOLITION.
- DEMO EXISTING ART ROOM EQUIPMENT/HOODS THAT MAY BE PRESENT AT EXISTING ART ROOM.
- DEMO EXISTING VRF INDOOR UNITS THAT ARE AFFECTED BY ROOM ENLARGEMENTS (NEW BAND/CHORUS ROOMS).
- DEMO EXISTING AUDITORIUM TOILET ROOM VENTILATION.
- RELOCATE EXISTING ENTRY/AUDITORIUM WALL HEATERS TO NEW WALLS IN ENTRY AREA.
- RELOCATE EXISTING DIFFUSERS/GRILLE FOR OUTDOOR AIR IN NEW CLASSROOMS.
- DEMO EXISTING OUTDOOR AIR SUPPLY AIR IN EXISTING ADMIN AREA FOR LAYOUT OF NEW PRINCIPAL SPACES.

VARIABLE REFRIGERANT FLOW (VRF) SCHEDULE

| INDOOR UNIT TAG | SERVICES | TYPE | CFM | COOLING TOTAL SENSIBLE (BTUH) | HEATING TOTAL SENSIBLE (BTUH) | VOLTAGE | DESIGN BASIS | REMARKS |
|-----------------|-----------------------|------------------|------|-------------------------------|-------------------------------|---------|--------------------|---------------------------------------|
| VRFC-302A | SENSORY | CEILING CASSETTE | 1600 | 48,000 / 35,000 | 54,000 | 208V/1E | DAIKIN FXFQ48TVJU | NEW UNIT - CONNECT TO EXISTING SYSTEM |
| VRFC-305A | SCIENCE/TECH | CEILING CASSETTE | 1600 | 48,000 / 35,000 | 54,000 | 208V/1E | DAIKIN FXFQ48TVJU | NEW UNIT - CONNECT TO EXISTING SYSTEM |
| VRFC-306A | MAKER SPACE | CEILING CASSETTE | 1600 | 48,000 / 35,000 | 54,000 | 208V/1E | DAIKIN FXFQ48TVJU | NEW UNIT - CONNECT TO EXISTING SYSTEM |
| VRFC-602A | PRE-K STORAGE | DUCTED | 600 | 18,000 / 15,500 | 20,000 | 208V/1E | DAIKIN FXMQ18PBVJU | NEW UNIT - CONNECT TO EXISTING SYSTEM |
| VRFC-701A | ART | CEILING CASSETTE | 1600 | 48,000 / 35,000 | 54,000 | 208V/1E | DAIKIN FXFQ48TVJU | NEW UNIT - CONNECT TO EXISTING SYSTEM |
| VRFC-702A | KILN/STORAGE | DUCTED | 600 | 12,000 / 9,700 | 13,500 | 208V/1E | DAIKIN FXMQ12PBVJU | NEW UNIT - CONNECT TO EXISTING SYSTEM |
| VRFC-707A | DRAMAMUSIC | CEILING CASSETTE | 1600 | 48,000 / 35,000 | 54,000 | 208V/1E | DAIKIN FXFQ48TVJU | NEW UNIT - CONNECT TO EXISTING SYSTEM |
| VRFC-708A | BAND | CEILING CASSETTE | 1600 | 48,000 / 35,000 | 54,000 | 208V/1E | DAIKIN FXFQ48TVJU | NEW UNIT - CONNECT TO EXISTING SYSTEM |
| VRFC-802A | PARENTS SUITE OFFICES | DUCTED | 600 | 12,000 / 9,700 | 13,500 | 208V/1E | DAIKIN FXMQ12PBVJU | NEW UNIT - CONNECT TO EXISTING SYSTEM |
| VRFC-803A | PARENTS SUITE | CEILING CASSETTE | 1200 | 36,000 / 28,200 | 40,000 | 208V/1E | DAIKIN FXFQ36TVJU | RELOCATED - VRFC 301 |
| VRFC-805A | CORRIDOR | DUCTED | 600 | 48,000 / 35,000 | 54,000 | 208V/1E | DAIKIN FXFQ18TVJU | NEW UNIT - CONNECT TO EXISTING SYSTEM |
| VRFC-806A | RECEPTION | DUCTED | 1600 | 48,000 / 35,000 | 54,000 | 208V/1E | DAIKIN FXMQ48PBVJU | NEW UNIT - CONNECT TO EXISTING SYSTEM |
| VRFC-810A | BUSINESS | CEILING CASSETTE | 300 | 9,500 / 8,500 | 10,500 | 208V/1E | DAIKIN FXFQ09TVJU | RELOCATED - VRFC 302 |
| VRFC-811A | CORRIDOR ENTRY | DUCTED | 1600 | 48,000 / 35,000 | 54,000 | 208V/1E | DAIKIN FXFQ48TVJU | NEW UNIT - CONNECT TO EXISTING SYSTEM |
| VRFC-812A | ENTRY VESTIBULE | CEILING CASSETTE | 800 | 23,000 / 20,000 | 27,000 | 208V/1E | DAIKIN FXFQ24TVJU | RELOCATED - VRFC 302 |
| VRFC-813A | CORRIDOR | CEILING CASSETTE | 600 | 18,000 / 16,000 | 20,000 | 208V/1E | DAIKIN FXFQ18TVJU | RELOCATED - VRFC 802 |
| VRFC-814A | TESTING STORAGE | CEILING CASSETTE | 400 | 12,000 / 9,700 | 13,500 | 208V/1E | DAIKIN FXFQ12TVJU | RELOCATED - VRFC 303 |

SPLIT SYSTEM SCHEDULE

| MARK | ROOM SERVED | FLOOR | CFM | HW OUTLINE (H) | E.S.P. | TYP. CAPAC. (BTUH) | REVERSE CAPAC. (BTUH) | W/RT-LAY | HEATING CAPAC. (BTUH) | HEATING CAPAC. (BTUH) | VOLTAGE | DESIGN BASIS | REMARKS | | | |
|--------|--------------------|-------|-------|----------------|--------|--------------------|-----------------------|----------|-----------------------|-----------------------|---------|--------------|---------|-------|-----|-------------|
| FCU-1 | IDF CLOSET | HP-1 | 800 | 0 | 0.5" | 13 | VARIABLE | 24.0 | 18.72 | 75.5 F@25 | 55F | 24.0 | 14.5 | 70.0F | 85F | 208-230V/1E |
| AHJ-1A | 2ND FL. CLASSROOMS | CU-1A | 4,000 | 1,000 | 1.5" | VARIABLE | 63.2 | 18.0 | 80.0 F@20 | 55F | — | — | — | — | — | 208-230V/3E |

GRILLE, REGISTER & DIFFUSER SCHEDULE

| MARK | DESCRIPTION | FINISH |
|------|--|------------------------|
| S-1A | 24"x24" STEEL SQUARE CEILING DIFFUSER, LAY-IN FRAME, 30° DEGREE THROW, 0.9" DAMPER, WITH ROUND NECK, NECK SIZE AS SHOWN, TITUS TMS | BAKED OFF WHITE ENAMEL |
| S-1B | STEEL, DOUBLE DEFLECTION LOUVERED SUPPLY GRILLE, ADJUSTABLE PATTERN, 3/4" SPACING BETWEEN BLADES, FLANGE FRAME, SIZE AS SHOWN, FRONT BLADES PARALLEL TO SHORT DIMENSION, TITUS 303RL | BAKED OFF WHITE ENAMEL |
| S-1C | STEEL, DOUBLE DEFLECTION LOUVERED SUPPLY GRILLE, ADJUSTABLE PATTERN, 3/4" SPACING BETWEEN BLADES, FLANGE FRAME, SIZE AS SHOWN, FRONT BLADES PARALLEL TO LONG DIMENSION, TITUS 303RL | BAKED OFF WHITE ENAMEL |
| R-1A | 24"x24" PERFORATED STEEL CEILING RETURN GRILLE, SIZE AS SHOWN, NO FRAME, TITUS 50P | BAKED OFF WHITE ENAMEL |
| R-1B | 24"x24" PERFORATED STEEL CEILING RETURN GRILLE, SIZE AS SHOWN, 6"PSLJ FRAME, TITUS 50P | BAKED OFF WHITE ENAMEL |
| R-1C | STEEL, SINGLE DEFLECTION LOUVERED RETURN GRILLE, ADJUSTABLE PATTERN, 3/4" SPACING BETWEEN BLADES, 35 DEGREE BLADE DIRECTION, SIZE AS SHOWN, FROM BLADES PARALLEL TO SHORT DIMENSION, TITUS 303RL | BAKED OFF WHITE ENAMEL |

RTU SCHEDULE

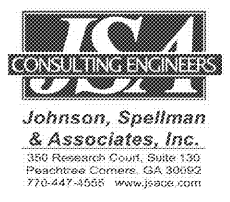
| MARK | SUPPLY FAN PERFORMANCE | | | COOLING COIL PERFORMANCE | | | | HEATING PERFORMANCE | | | | VOLTAGE | REMARKS | |
|--------|------------------------|------|------|--------------------------|------------|--------------|---------------------|---------------------|------------|------------|----------------|---------|---------|--|
| | CFM | ESP | HP | CAPACITY (MBH) (TYPICAL) | EAT (DB-F) | LAT (DB-F) | FACE VELOCITY (FPM) | AIR FLOW (CFM) | EAT (DB-F) | LAT (DB-F) | AIR FLOW (CFM) | | | |
| RTU-2A | 4,000 | 0.8" | 4 HP | 1,176/608 | 80 F@7 F | 53.9 F@3.3 F | 181 FPM | 0.16" | 80.0 F | 112.7 F | 0.02" | 200 | 208V/3E | |
| RTU-2B | 5,000 | 0.8" | 4 HP | 1,745/1,257 | 80 F@7 F | 54.5 F@3.4 F | 252 FPM | 0.10" | 80.0 F | 109.2 F | 0.01" | 300 | 208V/3E | |

VARIABLE VOLUME TERMINAL SCHEDULE

| MARK | SERVED BY | PRIMARY AIR FLOW | | DESIGN BASIS | ELECTRIC ENERGY (WH) | VOLTAGE (V/PH) | REMARKS |
|---------|-----------|------------------|----------|--------------|----------------------|----------------|---------|
| | | MAX. CFM | MIN. CFM | | | | |
| VAV-2-1 | AHJ-1 | 200 | 50 | 0.5 | TITUS DESV | 2-1 | 208/3 |
| VAV-2-2 | AHJ-1 | 200 | 50 | 0.5 | TITUS DESV | 2-1 | 208/3 |
| VAV-2-3 | AHJ-1 | 300 | 200 | 0.5 | TITUS DESV | 10-11 | 208/3 |
| VAV-2-4 | AHJ-1 | 300 | 80 | 0.5 | TITUS DESV | 4-1 | 208/3 |
| VAV-2-5 | AHJ-1 | 200 | 50 | 0.5 | TITUS DESV | 2-1 | 208/3 |
| VAV-2-6 | AHJ-1 | 1000 | 250 | 0.5 | TITUS DESV | 13-1 | 208/3 |
| VAV-2-7 | AHJ-1 | 900 | 200 | 0.5 | TITUS DESV | 10-1 | 208/3 |

FAN SCHEDULE

| MARK | TYPE | SERVICES | CFM | HP | W/RT-LAY | DESIGN BASIS | REMARKS |
|------|--------------------|--------------------------------|-----|-------|----------|--------------|----------------|
| EF-1 | ROOFTOP DOWNBLAST | KILN ROOM | 400 | 0.35" | 1/6 | 1140 | GREENHECK GB |
| EF-2 | CENTRIFUGAL INLINE | GYM ELECTRICAL ROOM | 300 | 0.5" | 1/15 | 1300 | GREENHECK SQ |
| EF-3 | ROOFTOP DOWNBLAST | GYM MENS TOILET | 300 | 0.35" | 1/6 | 1140 | GREENHECK GB |
| EF-4 | ROOFTOP DOWNBLAST | GYM WOMENS TOILET | 450 | 0.35" | 1/15 | 1140 | GREENHECK GB |
| EF-5 | ROOFTOP DOWNBLAST | AUDITORIUM WOMENS TOILET | 375 | 0.35" | 1/6 | 1140 | GREENHECK GB |
| EF-6 | ROOFTOP DOWNBLAST | AUDITORIUM MENS TOILET | 250 | 0.35" | 1/6 | 1140 | GREENHECK GB |
| EF-A | CEILING CABINET | COMMON INDIVIDUAL TOILET ROOMS | 100 | 0.4" | 80 Watts | 950 | GREENHECK SP-B |



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ATLANTA PUBLIC SCHOOLS

HVAC SCHEDULES NOTES & LEGENDS

| | |
|-----------------|---------------------------|
| THW | CC #201715 - JSA # 19J543 |
| Project Charge | Project No. |
| SPB | 03/16/20 |
| Project Manager | Date |
| SPB | |
| Drawn By | |
| Checked By | |
| Reviewed By | |

M1-00

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