

* DENOTES UNIT REQUIRES A SMOKE DETECTOR

CENTRAL STATION AIR HANDLER SCHEDULE

| SYMBOL | SPACES SERVED | UNIT LOCATION | MFR. | MODEL NO. | TYPE | FAN | | | | | | | | | | PRE-HEAT COIL DATA | | | | | | | | | | COOLING COIL DATA | | | | | | | | | | RE-HEAT COIL DATA | | | | | | | | | | REMARKS |
|--------|---------------|---------------|-------|-----------|-------------|------------------|----------|------------------------|--------------|-------|----------|--------------------|------------------------|----------------------|---------------------|---------------------|-----------------------|-----------------------|-----|---------------|--------------------------|----------------------|-----------|---------------------|----------|---------------------|----------|---------------|------------|------------------------|----------------------|---------------------|---------------------|-----------------------|-----------------------|-------------------|---------------|------------|---------------|------------------------|--|--|--|--|--|---------|
| | | | | | | AIR QUANTITY CFM | ESP (IN) | DESIGN FILTER P.D.(IN) | MAX. FAN RPM | MOTOR | | MIN/MAX G.A. (CFM) | MAX. FACE VELOCITY FPM | HEATING CAPACITY MBH | ENT. AIR TEMP. (°F) | LVG. AIR TEMP. (°F) | ENT. WATER TEMP. (°F) | LVG. WATER TEMP. (°F) | GPM | MAX. WPD (FT) | MAX. FACE VELOCITY (FPM) | COOLING CAPACITY MBH | MIN. ROWS | ENT. AIR TEMP. (°F) | | LVG. AIR TEMP. (°F) | | CHILLED WATER | | MAX. FACE VELOCITY FPM | HEATING CAPACITY MBH | ENT. AIR TEMP. (°F) | LVG. AIR TEMP. (°F) | ENT. WATER TEMP. (°F) | LVG. WATER TEMP. (°F) | GPM | MAX. WPD (FT) | | | | | | | | | |
| | | | | | | | | | | HP | VOLTAGE | | | | | | | | | | | | | DRY BULB | WET BULB | DRY BULB | WET BULB | GPM | ENT. TEMP. | | | | | | | | | LVG. TEMP. | MAX. WPD (FT) | | | | | | | |
| AHU-3 | MEETING ROOM | MECH RM | TRANE | CSAA-6H | SINGLE ZONE | 3,000 | 0.75 | 0.6 | 1612 | 3 | 480-3-60 | 2007 1,350 | 500 | 77 | 45 | 69 | 180 | 140 | 3.8 | 1 | 500 | 141 | 8 | 80.0 | 67.0 | 51.6 | 51.3 | 23 | 45 | 57 | 6 | 500 | 89 | 51.6 | 79 | 180 | 140 | 4.4 | 1 | 1, 2, 3, 4, 5, 6, 7, 8 | | | | | | |

1. PROVIDE FAN & MOTOR ASSEMBLY WITH SEISMIC QUALIFIED VIBRATION ISOLATION SYSTEM.
2. PROVIDE WITH 2 SETS OF FILTERS (2" MERV 8).
3. ENTIRE UNIT TO BE SOLID 2" THICK INSULATED DOUBLE WALL CONSTRUCTION.
4. UNIT SHALL HAVE SLOPED & INSULATED DOUBLE WALL STAINLESS STEEL DRAIN PAN.
5. PROVIDE WITH 2" ANGLE FILTER MIXING SECTION.
6. PROVIDE WITH FACTORY MOUNTED AND WIRED VARIABLE SPEED DRIVE AS SPECIFIED.
7. FURNISH WITH ACCESS PANEL BETWEEN PRE-HEAT COIL AND COOLING COIL.
8. FURNISH WITH RE-HEAT COIL IN VERTICAL COIL SECTION.

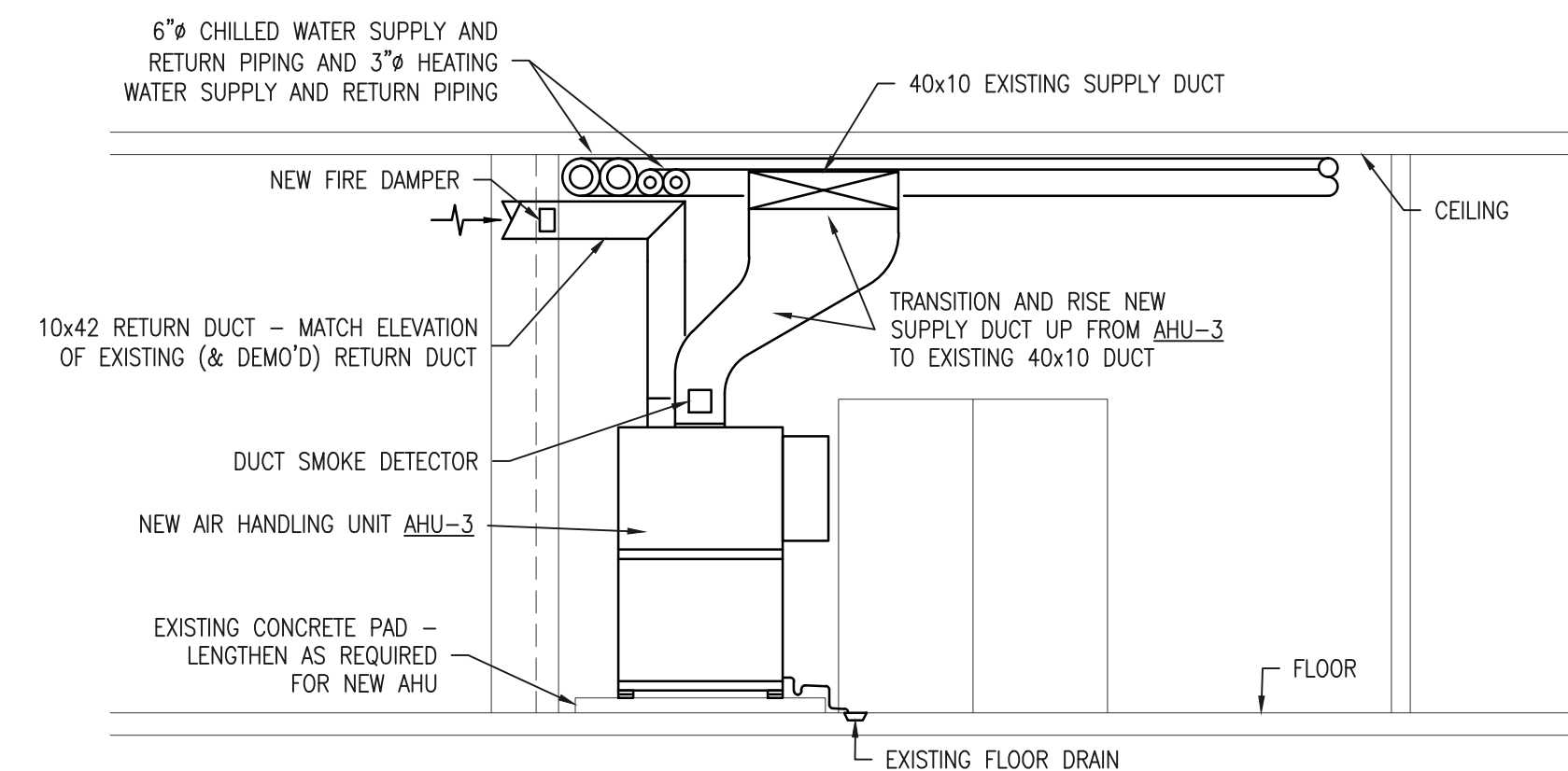
AIR HANDLER COIL PIPING SCHEDULE

| SYMBOL | PRE-HEATING COIL | | | | COOLING COIL | | | | RE-HEATING COIL | | | | CONDENSATE DRAIN SIZE | REMARKS |
|--------|------------------|-------------|--------------------|-----------|--------------|-------------|--------------------|-----------|-----------------|-------------|--------------------|-----------|-----------------------|---------|
| | GPM | RUNOUT SIZE | CONTROL VALVE SIZE | MAX. P.D. | GPM | RUNOUT SIZE | CONTROL VALVE SIZE | MAX. P.D. | GPM | RUNOUT SIZE | CONTROL VALVE SIZE | MAX. P.D. | | |
| AHU-3 | 3.8 | 1" | 3/4" | 5 PSI | 23.4 | 2" | 1-1/2" | 5 PSI | 4.4 | 1" | 3/4" | 5 PSI | 1-1/4" | -- |

AIR DISTRIBUTION SCHEDULE

| SYMBOL | MOUNTING | PRICE MODEL NO. | METAL-AIRE MODEL NO. | TITUS MODEL NO. | FRAME SIZE (IN) | FACE TYPE | NECK | FINISH (FACE/INT) | USE | MATERIAL | REMARKS |
|--------|-----------------|-----------------|----------------------|-----------------|-----------------|------------|--------|-------------------|---------|----------|---------|
| A | LAY-IN | APDC | 7000-6 | PCS-AA | 24X24 | PERFORATED | ROUND | WHT/WHT | SUPPLY | ALUMINUM | 1, 2 |
| B | LAY-IN | APDDR | 7000R-6 | PAR-AA | 24X24 | PERFORATED | ROUND | WHT/WHT | RET/EXH | ALUMINUM | - |
| C | SURFACE/CEILING | APDC | 7000-1 | PCS-AA | NECK + 6 | PERFORATED | SQUARE | WHT/WHT | SUPPLY | ALUMINUM | 1, 2, 3 |
| D | SURFACE/CEILING | APDDR | 7000R-1 | PAR-AA | NECK + 2 | PERFORATED | SQUARE | WHT/WHT | RET/EXH | ALUMINUM | 3 |

1. FURNISH WITH OPPOSED BLADE DAMPER.
2. FURNISH WITH SQUARE TO ROUND NECK ADAPTER
3. FURNISH WITH PLASTER FRAME.



1 HVAC MECH. RM. SECTION
SCALE: 1/4" = 1'-0"

HVAC LEGEND

- ⊙ CARBON DIOXIDE (CO2) SENSOR
- ⊕ HUMIDITY SENSOR OR HUMIDISTAT
- ⊖ WALL SWITCH
- ⊗ THERMOSTAT
- ⊙ AHU-1 AIR HANDLER UNIT NO. 1
- ⊙ ZD-1 ZONE DAMPER NO. 1
- D CONDENSATE DRAIN LINE
- CW CHILLED WATER SUPPLY AND RETURN LINES
- HW HEATING WATER SUPPLY AND RETURN LINES
- MD MANUAL DAMPER (MD)
- ⊙ TYPE "C" GRILLE (SEE SCHEDULE)
- ⊙ 6" ROUND NECK
- ⊙ C-6-60 60 CFM
- ⊙ MOTOR OPERATED DAMPER (MOD)
- ⊙ DUCT MOUNTED SMOKE DETECTOR (SD)
- ⊙ FIRE DAMPER (FD)
- ⊙ COMBINATION FIRE/SMOKE DAMPER (FSD)
- ⊙ RD RADIATION DAMPER
- ⊙ SQUARE TO ROUND TRANSITION
- ⊙ ROUND FLEXIBLE DUCTWORK
- ⊙ 90 DEGREE ELBOW WITH TURNING VANES
- AD CEILING OR WALL ACCESS DOOR
- SPP STATIC PRESSURE PROBE
- ⊙ EXISTING DUCTWORK, PIPING OR EQUIPMENT TO REMAIN
- ⊙ NEW DUCTWORK, PIPING OR EQUIPMENT BY CONTRACTOR

HVAC GENERAL NOTES

1. ALL OPEN ENDED DUCTS SHALL BE REINFORCED WITH 1-1/2" x 1-1/2" x 1/8" GALVANIZED STEEL ANGLES BOLTED OR RIVETED 6" ON CENTER (MAX.) ALL AROUND EXTERIOR PERIMETER OF DUCT, AND THE END OF THE DUCT SHALL BE COVERED WITH HARDWARE CLOTH.
2. TRANSITION RECTANGULAR DUCTWORK ON BOTTOM AND SIDES. MAINTAIN TOP OF DUCTWORK LEVEL AND AS HIGH AS POSSIBLE.
3. FLEXIBLE DUCT RUNOUTS TO CEILING DIFFUSERS SHALL BE FREE OF SAGS AND KINKS AND SHALL BE THE SAME SIZE AS THE DIFFUSER INLET UNLESS OTHERWISE NOTED. MAXIMUM LENGTH = 6 FEET.
4. ALL DUCT TRANSITIONS FROM SQUARE TO ROUND SHALL BE SMOOTH AND TAPERED SQUARE TO ROUND TRANSITIONS. SPIN-IN FITTINGS AT THE END OF GAPPED DUCTS ARE NOT ACCEPTABLE.
5. DUCT DIMENSIONS SHOWN ARE INSIDE CLEAR DIMENSIONS.
6. VERIFY ALL THERMOSTAT AND FAN SWITCH LOCATIONS WITH THE OWNER.
7. ROUTE ALL CONDENSATE LINES TO THE NEAREST FLOOR DRAIN. CONDENSATE LINES SHALL BE TRAPPED AND SLOPED 1/8" PER FOOT IN HORIZONTAL RUNS.
8. ALL 2x2 DIFFUSERS SHALL HAVE 4-WAY AIR FLOW PATTERNS 4 ALL SLOT DIFFUSERS SHALL HAVE 2-WAY AIR FLOW PATTERNS UNLESS INDICATED OTHERWISE ON DRAWINGS.
9. MOUNT ALL THERMOSTATS 4'-0" ABOVE FINISHED FLOOR AS MEASURED TO THE CONTROL POINT.
10. RISE DUCTWORK UP BETWEEN JOISTS AND BEAMS WHEN NECESSARY FOR TWO DUCTS TO CROSS.
11. USE SPIN-IN AND TWIST LOCK FITTINGS WITH QUADRANT AND EXTRACTOR IN ALL ROUND DUCT TAKE-OFFS FROM RECTANGULAR DUCTWORK. PROVIDE A MANUAL DAMPER IN ALL RUNOUTS TO DIFFUSERS.
12. ALL FIRE DAMPERS SHALL BE RATED TO COMPLY WITH THE INTERNATIONAL MECHANICAL CODE BASED ON THE MALL, CEILING OR PARTITION RATING AS SPECIFIED ON THE ARCHITECTURAL PLANS. INSTALL FIRE DAMPERS ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. WHERE ALLOWED BY THE I.M.C. METAL DUCTWORK LESS THAN 100 SQ. IN. PENETRATING A RATED MALL SHALL HAVE A MINIMUM 12-INCH LONG BY 0.060-INCH THICK STEEL SLEEVE CENTERED IN EACH DUCT OPENING. THE SLEEVE SHALL BE SECURED TO BOTH SIDES OF THE MALL AND ALL FOUR SIDES OF THE SLEEVE WITH MINIMUM 1-1/2-INCH BY 1-1/2-INCH BY 0.060-INCH STEEL RETAINING ANGLES. THE RETAINING ANGLES SHALL BE SECURED TO THE SLEEVE AND THE MALL WITH NO. 10 SCREWS. THE ANGULAR SPACE BETWEEN THE STEEL SLEEVE AND THE MALL OPENING SHALL BE FILLED WITH MINERAL WOOL BATTING ON ALL SIDES.
13. IF EQUIPMENT TO BE SUPPLIED BY CONTRACTOR IS DIFFERENT THAN THAT SPECIFIED IN PLANS OR SPECIFICATION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH ALL DISCIPLINES ANY CHANGES NEEDED BECAUSE OF UNIT SIZE, ROOF OPENING SIZE, HEIGHT, LOCATION, ELECTRICAL SERVICE, ETC.
14. REFER TO THE EQUIPMENT SCHEDULES FOR UNITS THAT REQUIRE DUCT MOUNTED SMOKE DETECTORS. SMOKE DETECTORS SHALL BE FURNISHED AND WIRED INTO THE FIRE ALARM SYSTEM BY THE ELECTRICAL CONTRACTOR. INSTALLATION OF SMOKE DETECTOR AND UNIT SHUT DOWN SHALL BE BY THE MECHANICAL CONTRACTOR.
15. COORDINATE VOLTAGE OF ALL MECHANICAL EQUIPMENT WITH ELECTRICAL CONTRACTOR BEFORE SUBMITTING SHOP DRAWINGS OR ORDERING EQUIPMENT. ALL POWER AND CONTROL WIRING TO DAMPER MOTORS, VALVE MOTORS, SWITCHES, TIME CLOCKS, AND ALL OTHER CONTROL COMPONENTS IS TO BE PROVIDED BY THE MECHANICAL CONTRACTOR. IT IS HIS RESPONSIBILITY TO COORDINATE WITH HIS SUBCONTRACTORS TO ENSURE THAT THIS PRICE IS INCLUDED IN THE OVERALL MECHANICAL PRICE.
16. THE VENTILATION RATE PROCEDURE HAS BEEN USED TO ASSIGN ACCEPTABLE INDOOR AIR QUALITY PER ASHRAE 62-2010. THIS DESIGN SHOULD BE RE-EVALUATED, IF AT A LATER TIME, SPACE USE CHANGES OCCUR OR IF CONTAMINANTS ARE TO BE INTRODUCED OR UNUSUALLY STRONG SOURCES OF SPECIFIC CONTAMINANTS ARE TO BE INTRODUCED INTO THE SPACE.
17. FIELD VERIFY CONDITIONS TO DETERMINE IF DUCT ROUTING AND SIZES AS PROPOSED ARE FEASIBLE GIVEN THE EXISTING FRAMING SYSTEM. IF NOT, THE MECHANICAL CONTRACTOR SHALL SUBMIT HIS SUGGESTED CHANGE PRIOR TO ANY DUCT FABRICATION.

REVISIONS

DATE

ACADEMIC CENTER AIR HANDLER REPLACEMENT

FELKEL & HASTINGS Mechanical Engineers 2725 Cypress Street Columbia, S.C. 29205

MIDLANDS TECHNICAL COLLEGE AIRPORT CAMPUS COLUMBIA, SC

FOR REVIEW

DRAWN BY: JCR
CHECKED BY: JHK
COMM NO.: 14-63
DATE: 8 SEPTEMBER 2019
DRAWING NAME:
SCALE: AS NOTED

DRAWING NUMBER
M-2

DRAWING NUMBER