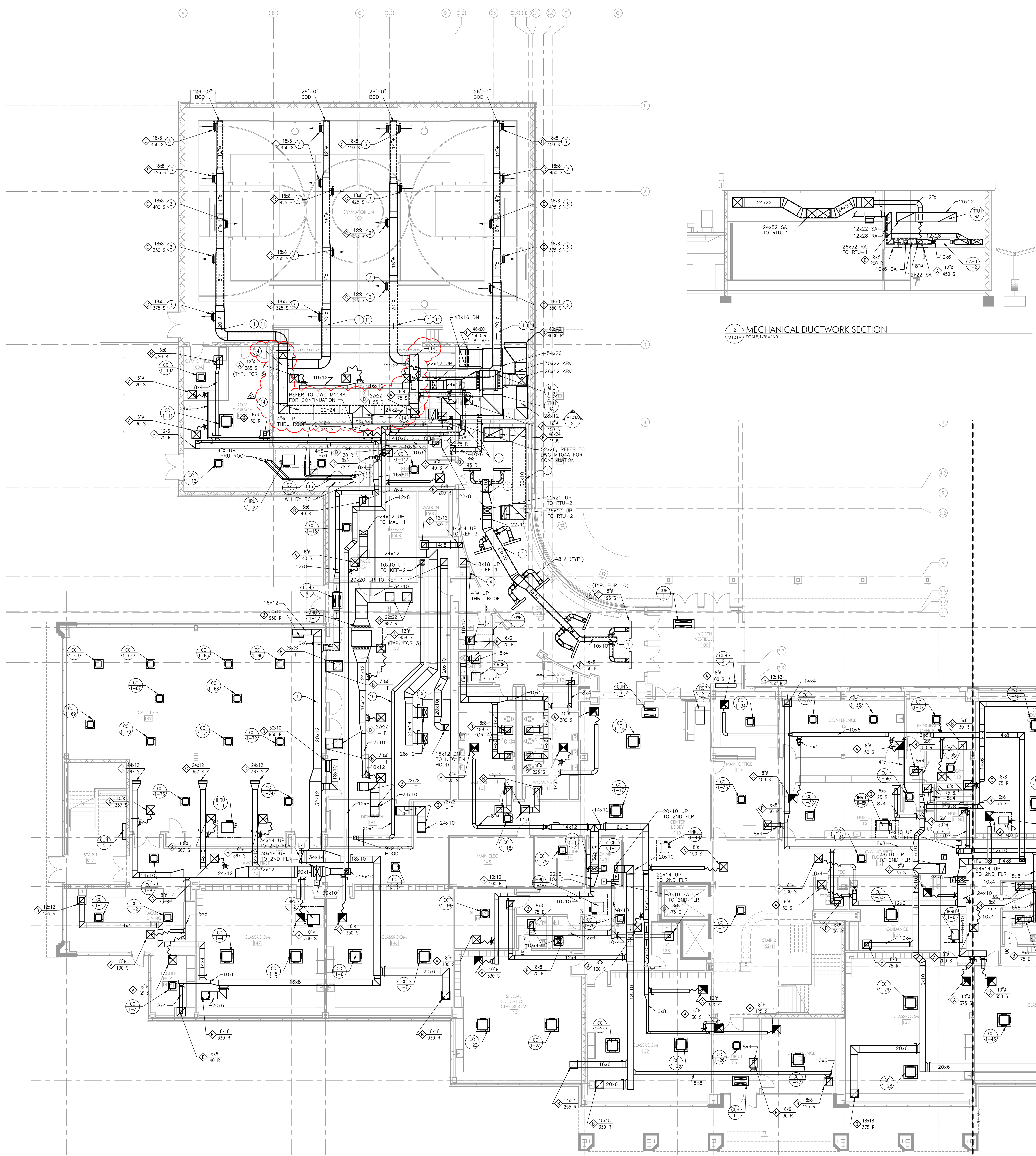
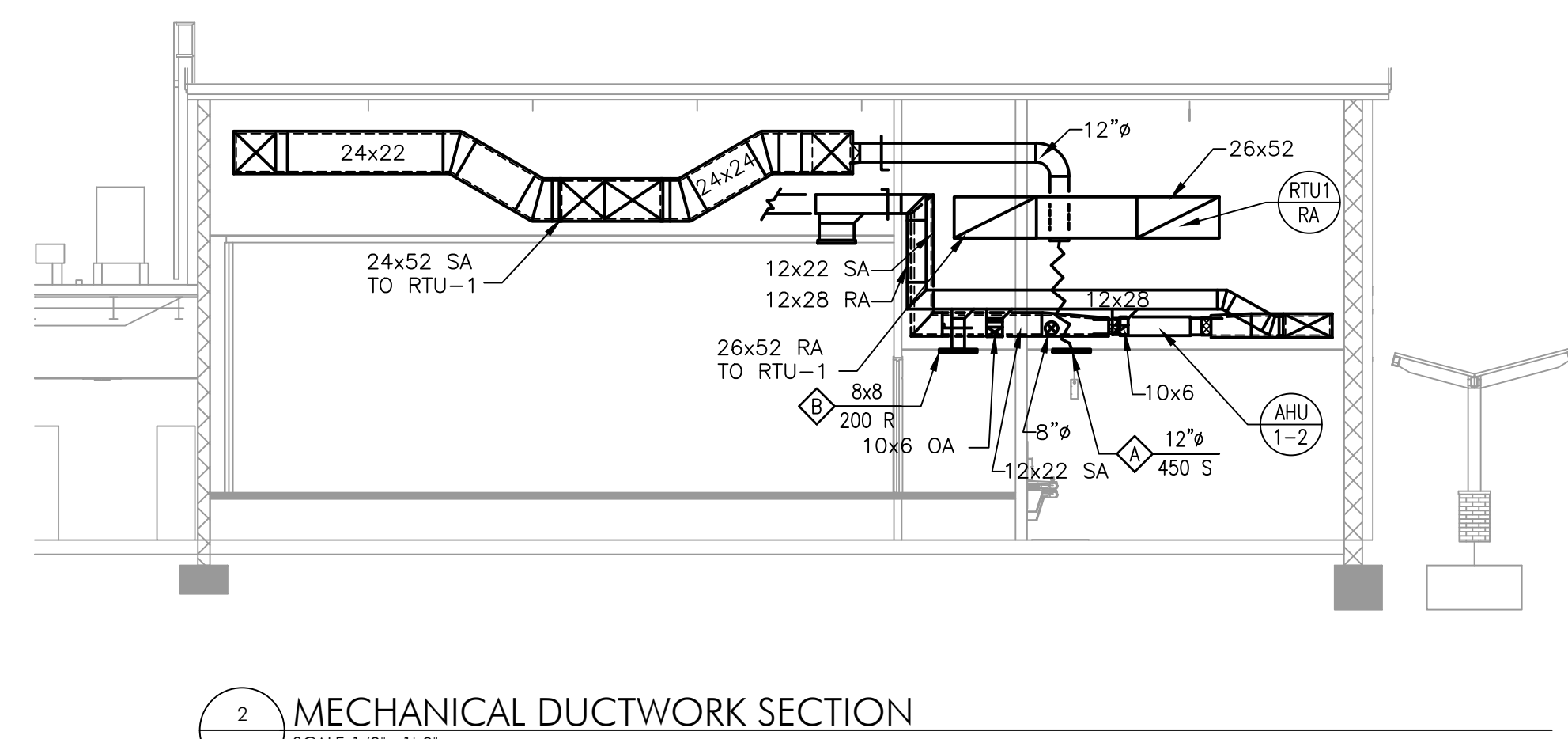


GENERAL NOTES:

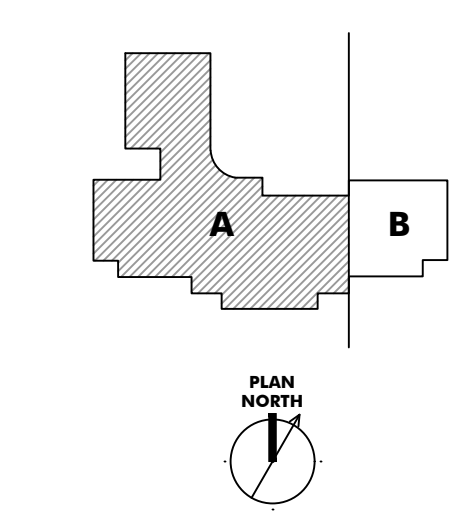
1. REFER TO M001 FOR FURTHER GENERAL NOTES.
2. PROVIDE 1ST 30 FT OF DUCTWORK UPSTREAM AND DOWNSTREAM OF ALL BOAS & RTUS WITH 1" THICK ACOUSTICAL LINING. PROVIDE 1ST 10 FT OF EXHAUST DUCTWORK DOWNSTREAM OF ALL EF's WITH 1" THICK ACOUSTICAL LINING.

NEW WORK KEY NOTES:

1. PROVIDE ALL EXPOSED DUCTWORK IN PAINTABLE GALVANNEAL SHEET METAL. DUCTWORK SHALL BE SHOP PRIMED AND FIELD PAINTED BY GC IN CUSTOM COLOR CHOSEN BY THE ARCHITECT. ALL EXPOSED DUCTWORK SHALL BE INTERNALLY LINED.
2. PROVIDE SLOT DIFFUSER WITH HORIZONTAL THROW IN OPPOSITE DIRECTION. 2-SLOTS PER DIRECTION. PROVIDE CUSTOM HEIGHT INTERNALLY LINED PLENUM WITH DIFFUSER LEVEL WITH BOTTOM OF CEILING BAFFLE.
3. MOUNT GRILLE IN 4 O'CLOCK POSITION IN DIRECTION INDICATED. PROVIDE 15' THROW IN BOTH DIRECTIONS.
4. 4"Ø EXHAUST DN TO DRYER. PROVIDE DRYER COMPLETE W/ 4"Ø DRYERBOX DB-480 CLEANOUT RECEPTACLE OR SIMILAR AT BASE OF VERTICAL RISE. PROVIDE CONNECTION TO DRYER W/ FLEXIBLE ALUMINUM UL 2158A DRYER EXHAUST DUCT. ALL DRYER DUCT SHALL BE MINIMUM 0.018" THICK ALUMINUM WITH SMOOTH INTERIOR FINISH. THE ANNULAR SPACE AT ALL EXHAUST DUCT WALL PENETRATIONS SHALL BE SEALED WITH UL LISTED FIRE CAULK.
5. PROVIDE ALL AHU SUPPLY AND RETURN DUCTWORK INTERNALLY LINED WITH 1" ACOUSTIC DUCT LINER.
6. PROVIDE ALL DUCTWORK INTERNALLY LINED WITH 1" ACOUSTIC DUCT LINER FOR SECTION OF DUCT INDICATED.
7. GC SHALL PROVIDE KILN EF AND 3" FLEXIBLE ALUMINUM DUCT FROM KILN TO KILN EXHAUST FAN & 3" DISCHARGE DUCT THRU WALL. MC SHALL PROVIDE WALL CAP ON EXTERIOR.
8. PROVIDE DIFFUSER IN CUSTOM COLOR AS CHOSEN BY THE ARCHITECT.
9. PROVIDE ALL NEW KITCHEN EXHAUST GREASE DUCT AS WELDED MINIMUM 18 GAUGE 316 STAINLESS STEEL. DUCTWORK, PROVIDE SMOOTH RADIUS ELBOWS AND CONTINUOUSLY SLOPE TOWARDS TOWARDS HOOD. PROVIDE FIRE-RATED ACCESS DOORS AT ALL LOCATIONS REQUIRED BY IMC 2018.
10. PROVIDE ALL NEW DISHWASHER EXHAUST DUCT AS WELDED MINIMUM 18 GAUGE 316 STAINLESS STEEL. DUCTWORK, PROVIDE SMOOTH RADIUS ELBOWS AND CONTINUOUSLY SLOPE TOWARDS TOWARDS HOOD.
11. EXPOSED GYM DUCT WORK SHALL LOCATED IN JOIST SPACE AND FOLLOW SLOPE OF ROOF.
12. PROVIDE ALL LGR 234 DUCTWORK UP JOIST SPACE HIGH AS POSSIBLE WHERE NOT CONCEALED BY ATC CEILING.
13. PROVIDE 4" CPVC EXHAUST AND 4" PVC INTAKE FROM HWH UP TO ROOF.
14. PROVIDE MINIMUM 18 GAUGE DUCT FOR SECTION OF DUCT INDICATED.
15. PROVIDE MINIMUM 16 GAUGE DUCT FOR SECTION OF DUCT INDICATED.



KEYPLAN



ISSUE HISTORY

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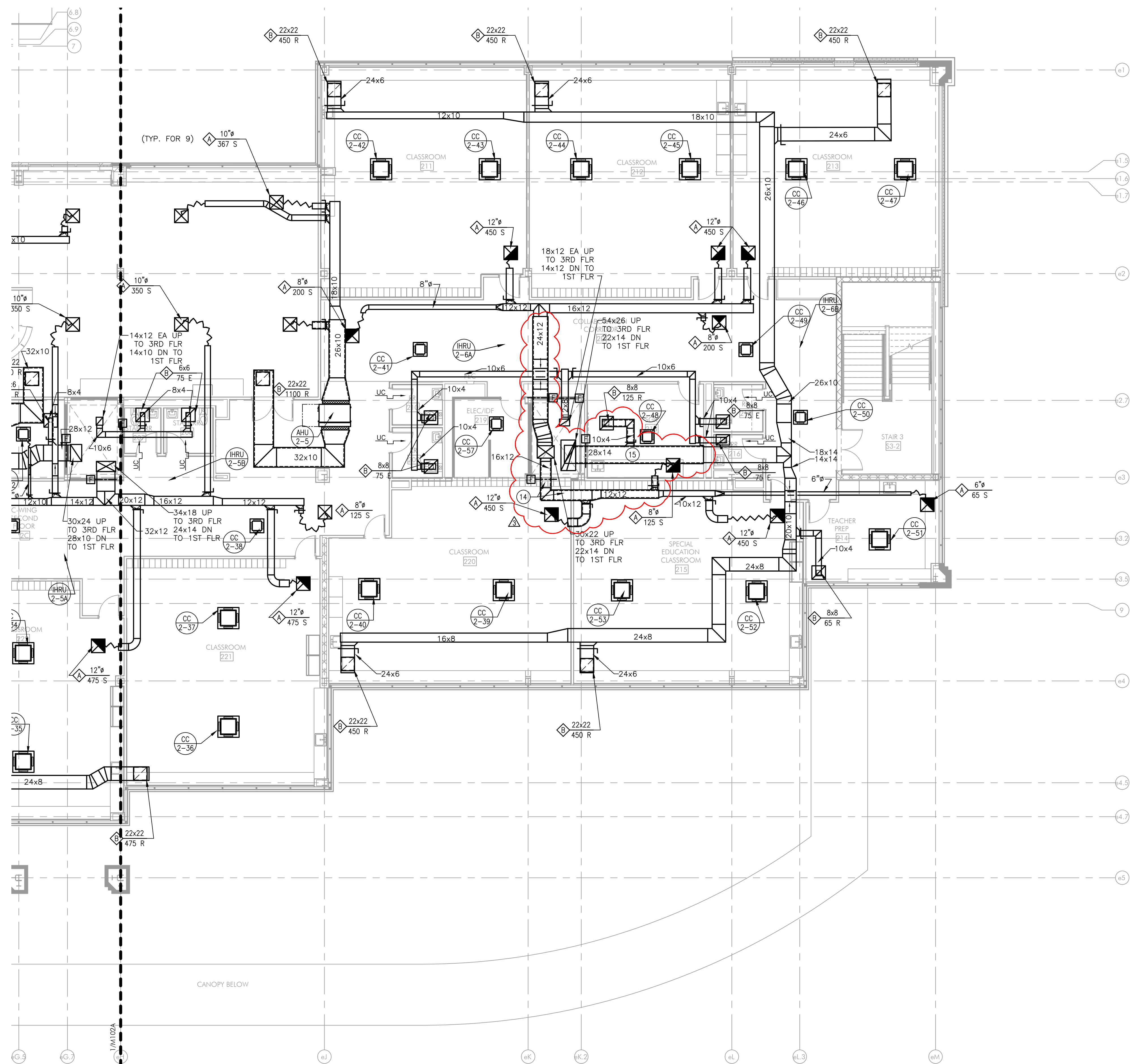
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CONSTRUCTION

GENERAL NOTES:

1. REFER TO MD01 FOR FURTHER GENERAL NOTES.
2. PROVIDE 1ST 30 FT OF DUCTWORK UPSTREAM AND DOWNSTREAM OF ALL DOAS & RTUS WITH 1" THICK ACOUSTICAL LINING. PROVIDE 1ST 10 FT OF EXHAUST DUCTWORK DOWNSTREAM OF ALL EF's WITH 1" THICK ACOUSTICAL LINING.

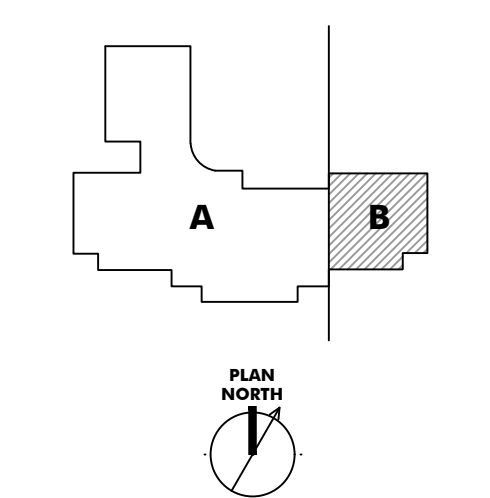
NEW WORK KEY NOTES:

1. PROVIDE ALL EXPOSED DUCTWORK IN PAINTABLE GALVANNEAL SHEET METAL. DUCTWORK SHALL BE SHOP PRIMED AND FIELD PAINTED BY GC IN CUSTOM COLOR CHOSEN BY THE ARCHITECT. ALL EXPOSED DUCTWORK SHALL BE INTERNALLY LINED.
2. PROVIDE SLOT DIFFUSER WITH HORIZONTAL THROW IN OPPOSITE DIRECTION. 2-SLOTS PER DIRECTION. PROVIDE CUSTOM HEIGHT INTERNALLY LINED PLENUM WITH DIFFUSER LEVEL WITH BOTTOM OF CEILING BAFFLE.
3. MOUNT GRILLE IN 4 O'CLOCK POSITION IN DIRECTION INDICATED. PROVIDE 15" THROW IN BOTH DIRECTIONS.
4. 4"Ø EXHAUST DN TO DRYER. PROVIDE DRYER COMPLETE W/ 4"Ø DRYERBOX DB-480 CLEANOUT RECEPTACLE OR SIMILAR AT BASE OF VERTICAL RISE. PROVIDE CONNECTION TO DRYER W/ FLEXIBLE ALUMINUM UL 2158A DRYER EXHAUST DUCT. ALL DRYER DUCT SHALL BE MINIMUM 0.018" THICK ALUMINUM WITH SMOOTH INTERIOR FINISH. THE ANNULAR SPACE AT ALL EXHAUST DUCT WALL PENETRATIONS SHALL BE SEALED WITH UL LISTED FIRE CAULK.
5. PROVIDE ALL AHU SUPPLY AND RETURN DUCTWORK INTERNALLY LINED WITH 1" ACOUSTIC DUCT LINER.
6. PROVIDE ALL DUCTWORK INTERNALLY LINED WITH 1" ACOUSTIC DUCT LINER FOR SECTION OF DUCT INDICATED.
7. GC SHALL PROVIDE KILN EF AND 3" FLEXIBLE ALUMINUM DUCT FROM KILN TO KILN EXHAUST FAN & 3" DISCHARGE DUCT THRU WALL. MC SHALL PROVIDE WALL CAP ON EXTERIOR.
8. PROVIDE DIFFUSER IN CUSTOM COLOR AS CHOSEN BY THE ARCHITECT.
9. PROVIDE ALL NEW KITCHEN EXHAUST GREASE DUCT AS WELDED MINIMUM 18 GAUGE 316 STAINLESS STEEL DUCTWORK. PROVIDE SMOOTH RADIUS ELBOWS AND CONTINUOUSLY SLOPE TOWARDS TOWARDS HOOD. PROVIDE FIRE-RATED ACCESS DOORS AT ALL LOCATIONS REQUIRED BY IMC 2018.
10. PROVIDE ALL NEW DISHWASHER EXHAUST DUCT AS WELDED MINIMUM 18 GAUGE 316 STAINLESS STEEL DUCTWORK. PROVIDE SMOOTH RADIUS ELBOWS AND CONTINUOUSLY SLOPE TOWARDS HOOD.
11. EXPOSED GYM DUCT WORK SHALL LOCATED IN JOIST SPACE AND FOLLOW SLOPE OF ROOF.
12. PROVIDE ALL LGR 234 DUCTWORK UP JOIST SPACE HIGH AS POSSIBLE WHERE NOT CONCEALED BY ATC CEILING.
13. PROVIDE 4" CPVC EXHAUST AND 4" PVC INTAKE FROM HWH UP TO ROOF.
14. PROVIDE MINIMUM 18 GAUGE DUCT FOR SECTION OF DUCT INDICATED.
15. PROVIDE MINIMUM 16 GAUGE DUCT FOR SECTION OF DUCT INDICATED.



MECHANICAL DUCTWORK SECOND FLOOR PLAN - SECTOR B
SCALE: 1/8" = 1'-0"

KEYPLAN



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MECHANICAL
DUCTWORK
SECOND FLOOR PLAN -
SECTOR B

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M102B

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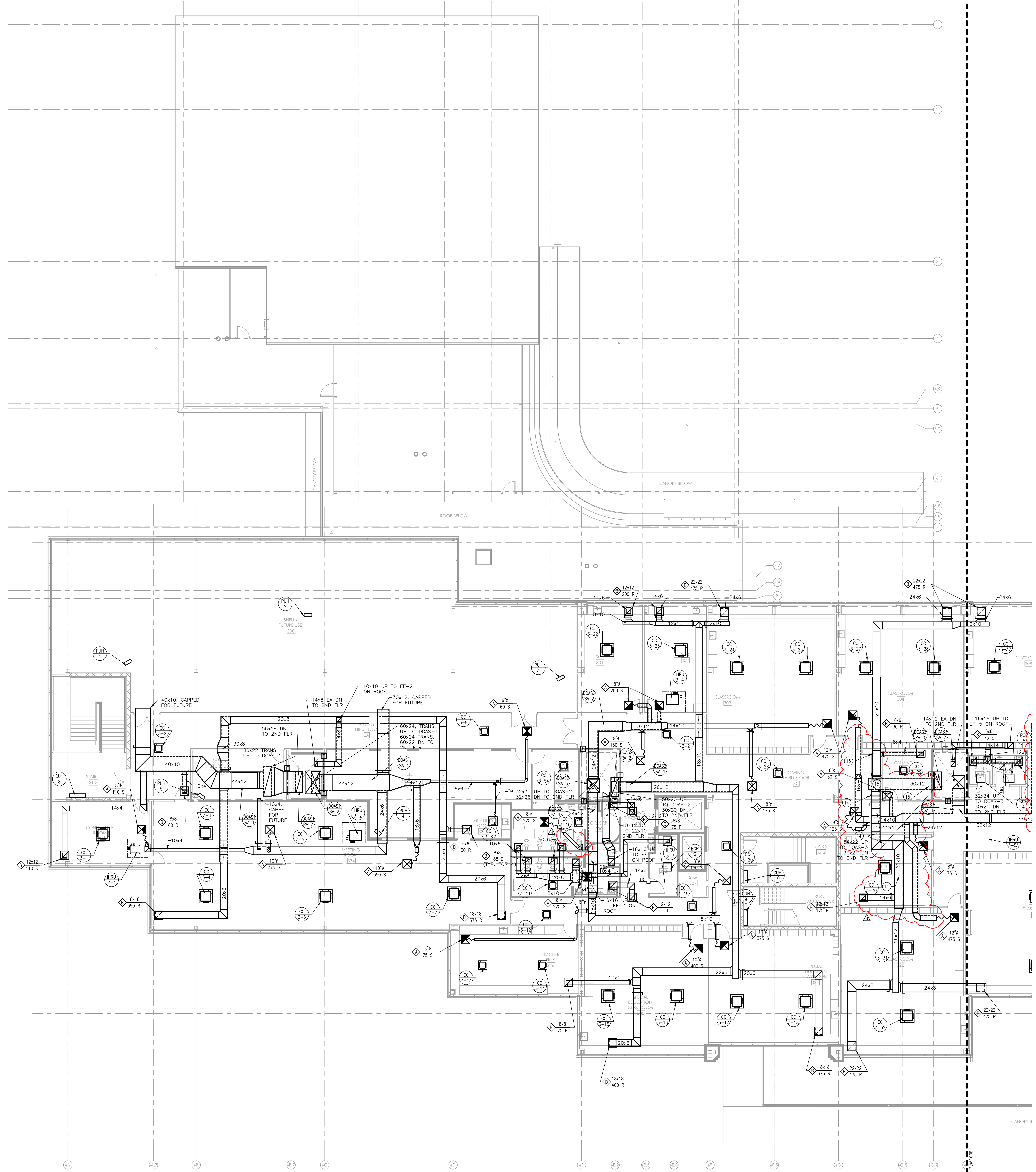
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GENERAL NOTES:

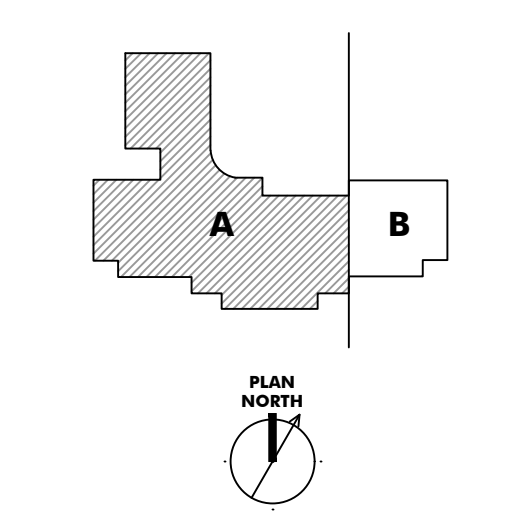
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KEYPLAN



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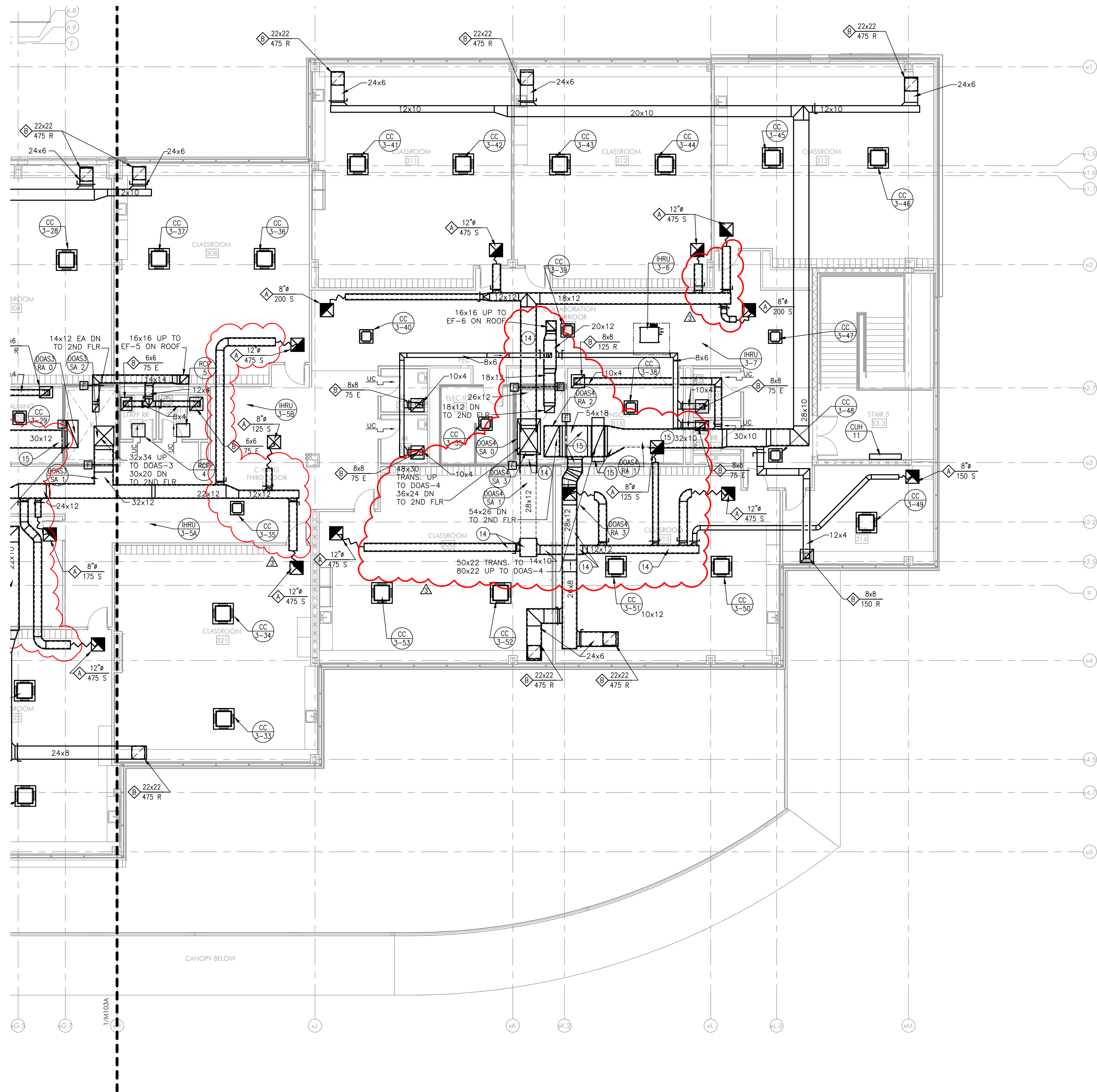
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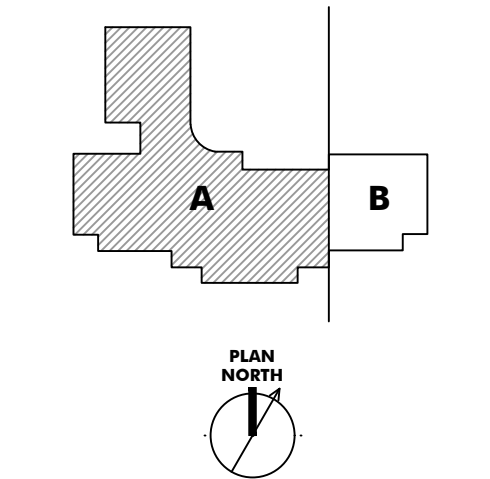
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SHEET TITLE
**MECHANICAL
DUCTWORK
ROOF PLAN - SECTOR A**

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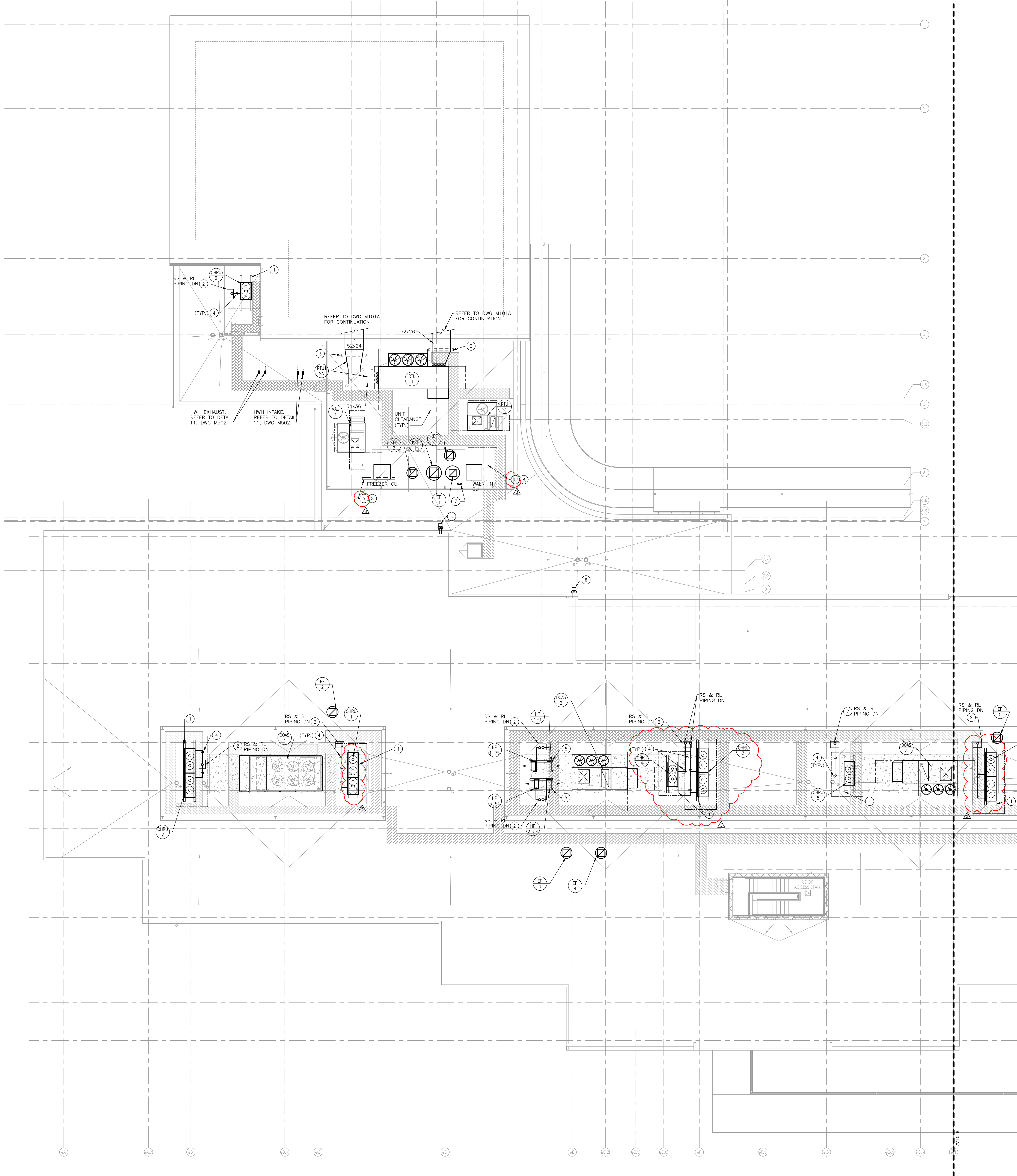
M104A

GENERAL NOTES:

1. REFER TO M001 FOR FURTHER GENERAL NOTES.
2. PROVIDE ALL NEW EXTERIOR ROOF TOP DUCTWORK AS PRE-MANUFACTURED DUAL-TECH SYSTEM.
3. REFER TO DWG M500 SERIES DRAWINGS FOR ADDITIONAL REFRIGERANT PIPING REQUIREMENTS.

NEW WORK KEY NOTES:

1. PROVIDE AND INSTALL EQUIPMENT SUPPORTS SIMILAR TO PATE MODEL ES AND ANCHOR UNIT TO CURB. REFER TO DWG M502 DETAIL 6 FOR ADDITIONAL REQUIREMENTS.
2. REFRIGERANT PIPING AND CO PIPING (WHERE APPLICABLE) DN TO INDOOR UNIT. PROVIDE AND INSTALL NEW PIPE CURB SIMILAR TO ROOF PENETRATION HOUSING AW SERIES WITH WITH ALL BOOTS AND CLAMPS AS REQUIRED FOR NEW REFRIGERANT PIPING AND ELECTRICAL CONDUITS. COORDINATE WITH EC FOR LOCATIONS AND QUANTITY OF CONDUITS. CUT OPENINGS AS REQUIRED. ANCHOR CURB TO STRUCTURE. REFER TO ARCHITECTURAL PLANS FOR FLASHING OF ROOF.
3. PROVIDE ALL NEW EXTERIOR ROOF TOP DUCTWORK AS PRE-MANUFACTURED DUAL-TECH SYSTEM. REFER TO ROOF DUCT SUPPORT DETAIL 1, DWG M502.
4. PROVIDE PIPE SUPPORTS SIMILAR TO MIRO INDUSTRIES MODEL BASE-STRUT-12 FOR PIPING AND CONDUIT ON ROOF. PROVIDE AND PLACE ROOF PIPING SUPPORTS ON SUPPORT PADS THAT ARE MANUFACTURED BY THE EPDM ROOF MANUFACTURER. SPACE SUPPORTS PER MANUFACTURER'S RECOMMENDATIONS.
5. PROVIDE AND INSTALL EQUIPMENT SUPPORTS SIMILAR TO PATE MODEL ES AND ANCHOR UNIT TO CURB. REFER TO DWG M502 DETAIL 4 FOR ADDITIONAL REQUIREMENTS.
6. SPILL 1" CD TO ROOF WITH SPLASH BLOCK. SPLASH BLOCK SHALL BE BLACK RUBBER TYPE SET ON PADS THAT ARE MANUFACTURED BY THE EPDM ROOF MANUFACTURER.
7. TERMINATE 4" ALUMINUM DRYER DUCT MINIMUM 18" ABOVE ROOF WITH GOOSENECK.
8. UNIT PROVIDED BY THE FOOD SERVICE CONTRACTOR. FURNISH ASSOCIATED PATE ES EQUIPMENT RAIL SUPPORTS.



1 MECHANICAL DUCTWORK ROOF PLAN - SECTOR A

M104A SCALE: 1/8"=1'-0"

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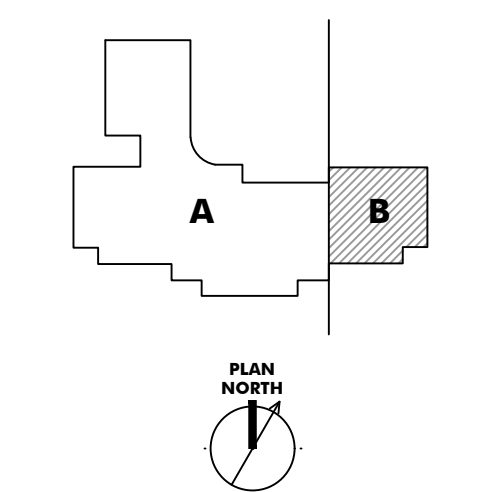
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SHEET TITLE
**MECHANICAL
DUCTWORK
ROOF PLAN - SECTOR B**

DRAWING NUMBER

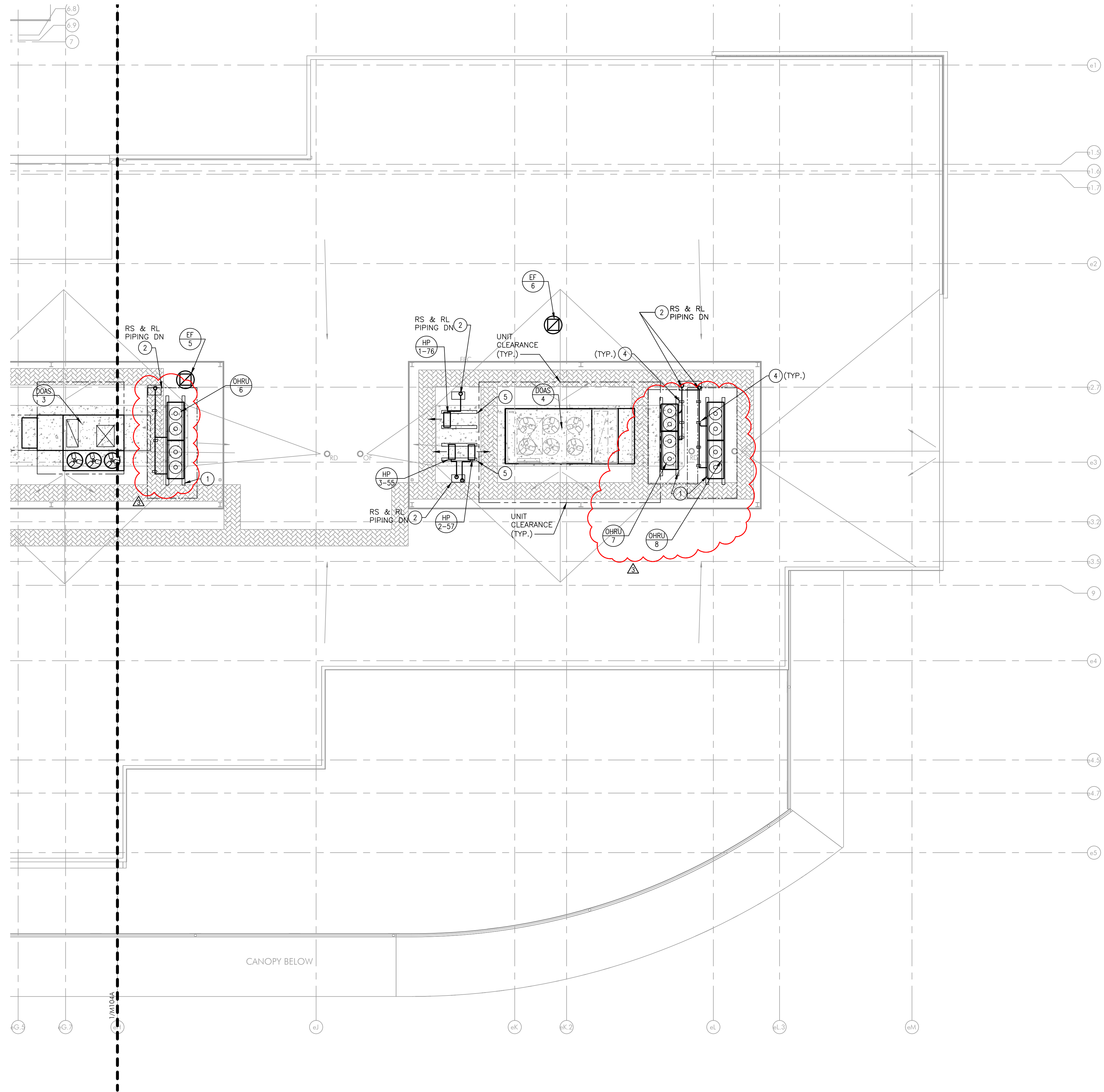
M104B

GENERAL NOTES:

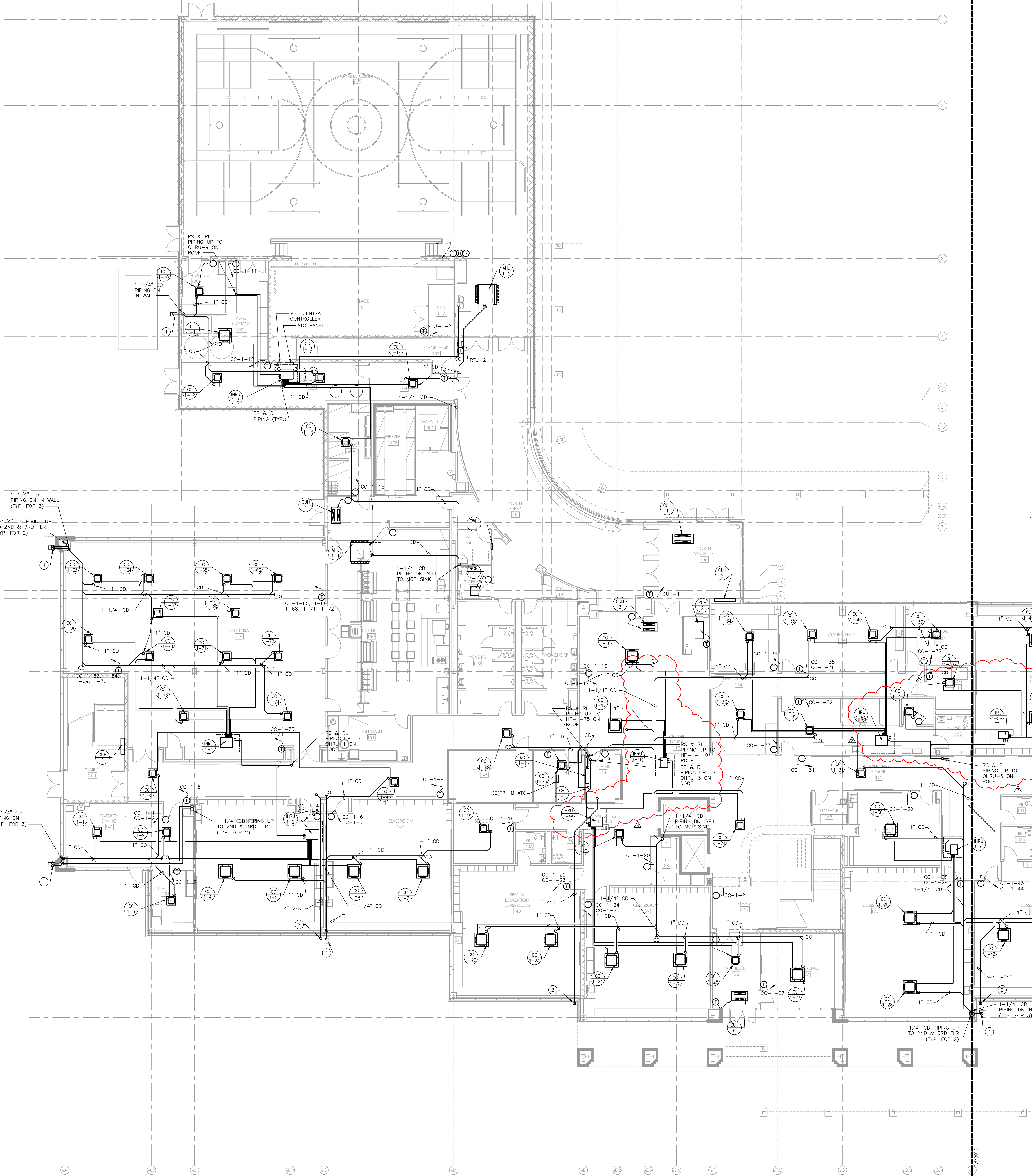
1. REFER TO M001 FOR FURTHER GENERAL NOTES.
2. PROVIDE ALL NEW EXTERIOR ROOF TOP DUCTWORK AS PRE-MANUFACTURED DUAL-TECH SYSTEM.
3. REFER TO DWG M500 SERIES DRAWINGS FOR ADDITIONAL REFRIGERANT PIPING REQUIREMENTS.

NEW WORK KEY NOTES:

- 1 PROVIDE AND INSTALL EQUIPMENT SUPPORTS SIMILAR TO PATE MODEL ES AND ANCHOR UNIT TO CURB. REFER TO DWG M502 DETAIL 6 FOR ADDITIONAL REQUIREMENTS.
- 2 REFRIGERANT PIPING AND CO PIPING (WHERE APPLICABLE) DN TO INDOOR UNIT. PROVIDE AND INSTALL NEW PIPE CURB SIMILAR TO ROOF PENETRATION HOUSING AW SERIES WITH WITH ALL BOOTS AND CLAMPS AS REQUIRED FOR NEW REFRIGERANT PIPING AND ELECTRICAL CONDUITS. COORDINATE WITH EC FOR LOCATIONS AND QUANTITY OF CONDUITS. CUT OPENINGS AS REQUIRED. ANCHOR CURB TO STRUCTURE. REFER TO ARCHITECTURAL PLANS FOR FLASHING OF ROOF.
- 3 PROVIDE ALL NEW EXTERIOR ROOF TOP DUCTWORK AS PRE-MANUFACTURED DUAL-TECH SYSTEM. REFER TO ROOF DUCT SUPPORT DETAIL 1, DWG M502.
- 4 PROVIDE PIPE SUPPORTS SIMILAR TO MRO INDUSTRIES MODEL BASE-STRUT-12 FOR PIPING AND CONDUIT ON ROOF. PROVIDE AND PLACE ROOF PIPING SUPPORTS ON SUPPORT PADS THAT ARE MANUFACTURED BY THE EPDM ROOF MANUFACTURER. SPACE SUPPORTS PER MANUFACTURER'S RECOMMENDATIONS.
- 5 PROVIDE AND INSTALL EQUIPMENT SUPPORTS SIMILAR TO PATE MODEL ES AND ANCHOR UNIT TO CURB. REFER TO DWG M502 DETAIL 4 FOR ADDITIONAL REQUIREMENTS.
- 6 SPILL 1" CO TO ROOF WITH SPLASH BLOCK. SPLASH BLOCK SHALL BE BLACK RUBBER TYPE SET ON PADS THAT ARE MANUFACTURED BY THE EPDM ROOF MANUFACTURER.
- 7 TERMINATE 4" ALUMINUM DRYER DUCT MINIMUM 18" ABOVE ROOF WITH GOOSENECK.
- 8 UNIT PROVIDED BY THE FOOD SERVICE CONTRACTOR. FURNISH ASSOCIATED PATE ES EQUIPMENT RAIL SUPPORTS.



MECHANICAL DUCTWORK ROOF PLAN - SECTOR B
M104B SCALE: 1/8"=1'-0"



- NOTES:
1. FOR GENERAL NOTES, REFER TO DRAWING M001.
 2. REFER TO DWG M500 SERIES DRAWINGS FOR ADDITIONAL REFRIGERANT PIPING REQUIREMENTS.

NEW WORK KEY NOTES:

- 1 RUN CONDENSATE DOWN IN CHASE TO EXTERIOR, W/ ELBOW AND SPILL 4" ABOVE GRADE ONTO CONCRETE SPLASH BLOCK. PROVIDE SEPARATE RISERS FOR EACH FLOOR. MAKE PENETRATION THROUGH WALL WEATHER-TIGHT. CONNECT CONDENSATE PIPING TO INDOOR UNITS.
- 2 4" PVC VENT FROM DUCT/PIPING SHAFT FLOOR, PITCHED CONTINUOUSLY DOWNWARD TOWARDS EXTERIOR, TERMINATE W/ 45° ELBOW DN W/ BIRD SCREEN.
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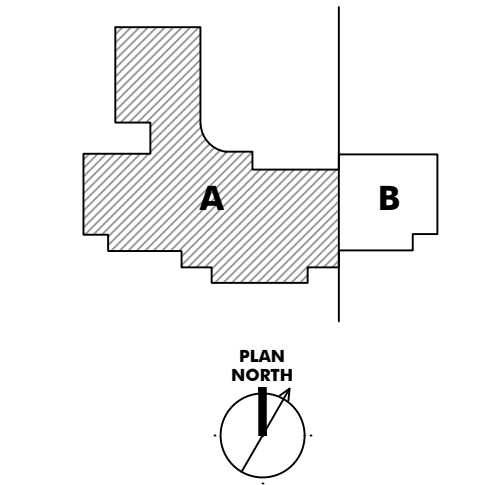
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|---|------------|------------|
| 3 | 2025-03-28 | BID ISSUE |
| | 2025-05-14 | ADDENDUM 3 |

SHEET TITLE
MECHANICAL PIPING
FIRST FLOOR PLAN -
SECTOR A

DRAWING NUMBER
M201A

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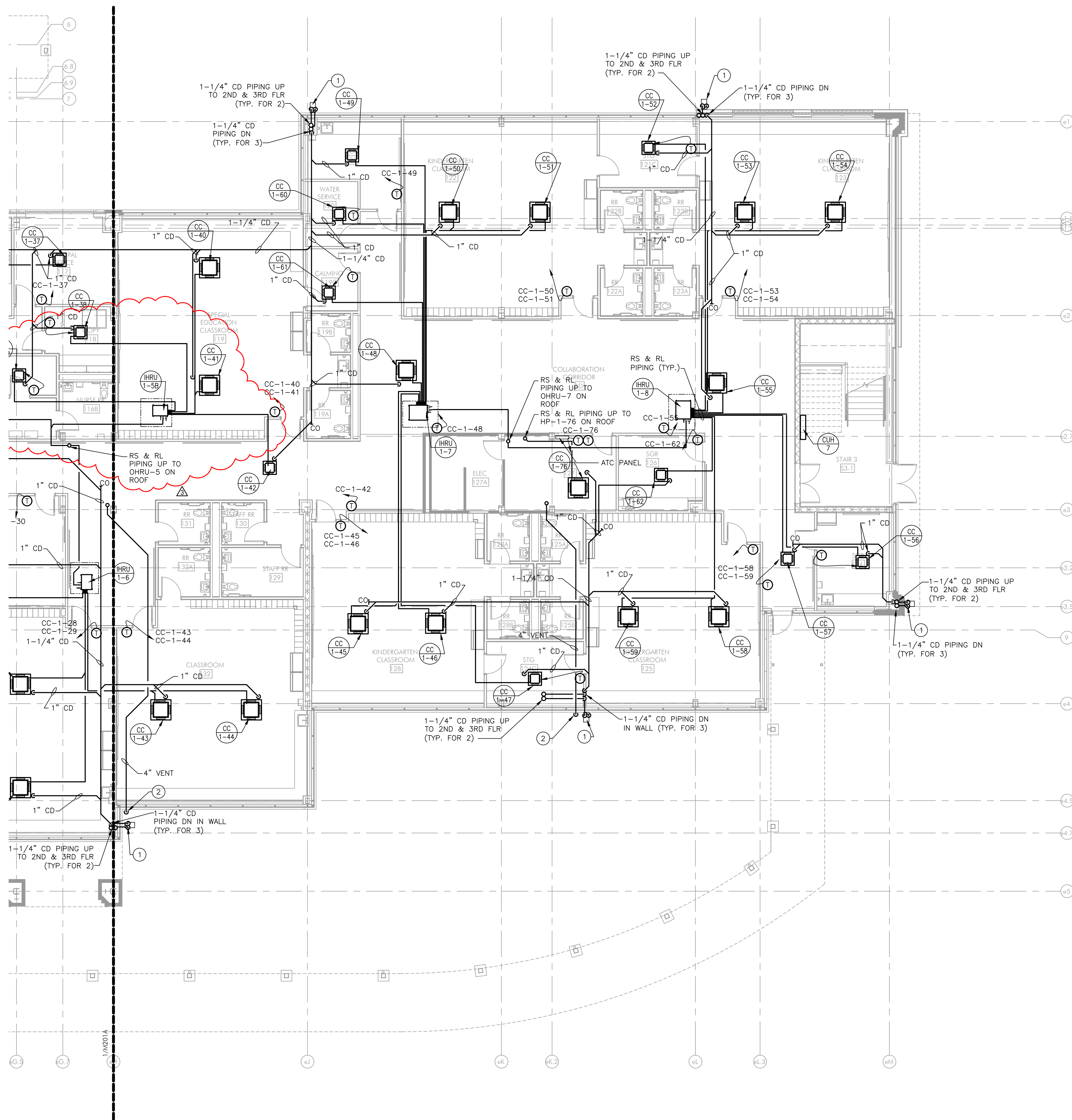
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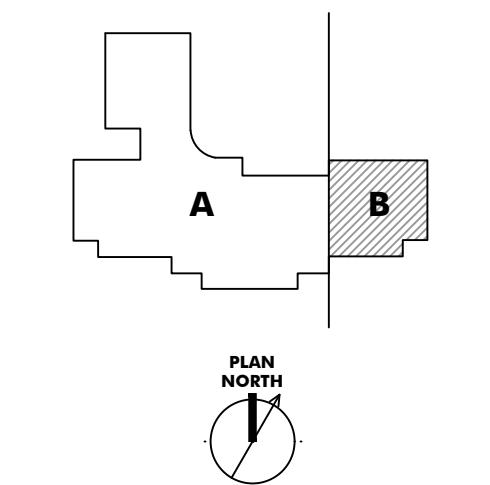
- NOTES:
1. FOR GENERAL NOTES, REFER TO DRAWING M001.
 2. REFER TO DWG M500 SERIES DRAWINGS FOR ADDITIONAL REFRIGERANT PIPING REQUIREMENTS.

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MECHANICAL PIPING FIRST FLOOR PLAN - SECTOR B
SCALE: 1/8\"=1'-0"

KEYPLAN



ISSUE HISTORY

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| | 2025-05-14 | ADDENDUM 3 |

SHEET TITLE
MECHANICAL PIPING
FIRST FLOOR PLAN -
SECTOR B

DRAWING NUMBER
M201B

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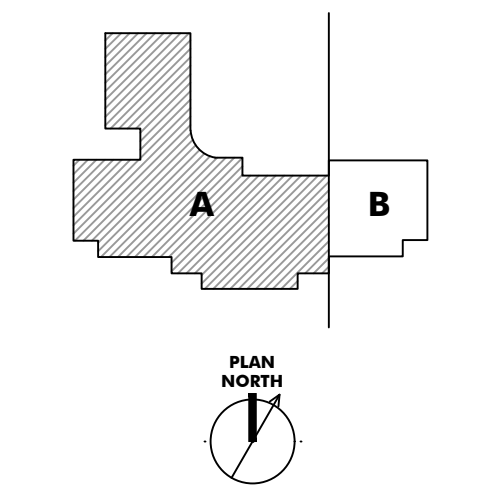
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| | 2025-05-14 | ADDENDUM 3 |

SHEET TITLE
MECHANICAL PIPING
SECOND FLOOR PLAN -
SECTOR A

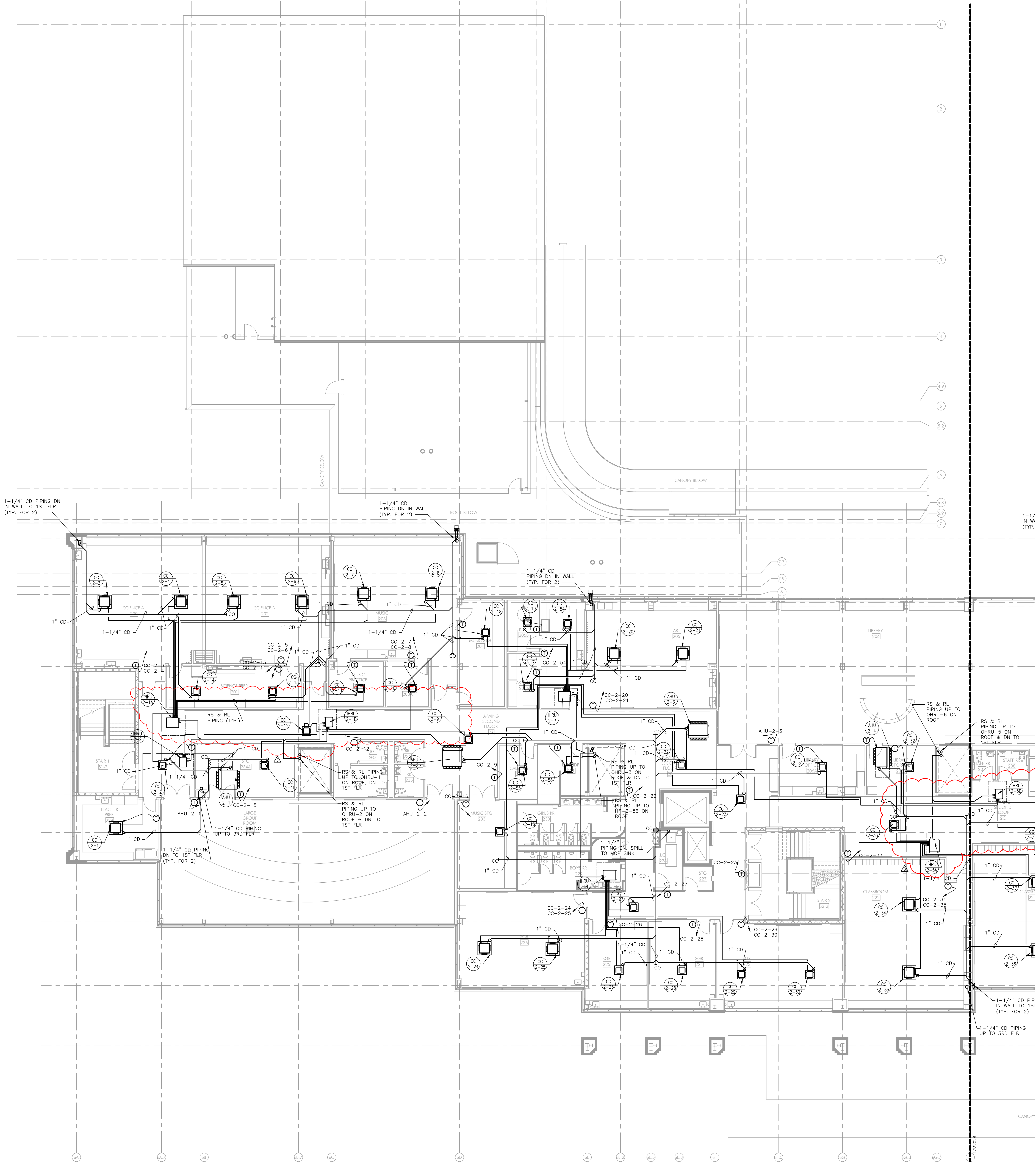
DRAWING NUMBER

M202A

- NOTES:
- FOR GENERAL NOTES, REFER TO DRAWING M001.
 - REFER TO DWG M500 SERIES DRAWINGS FOR ADDITIONAL REFRIGERANT PIPING REQUIREMENTS.

NEW WORK KEY NOTES:

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1 MECHANICAL PIPING SECOND FLOOR PLAN - SECTOR A

M202A SCALE: 1/8\"=1'-0"

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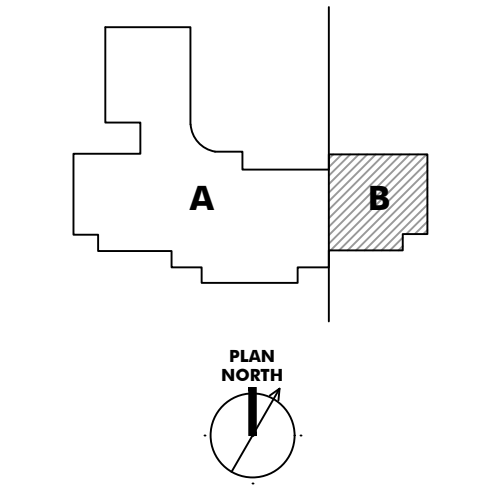
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SHEET TITLE
MECHANICAL PIPING
SECOND FLOOR PLAN -
SECTOR B

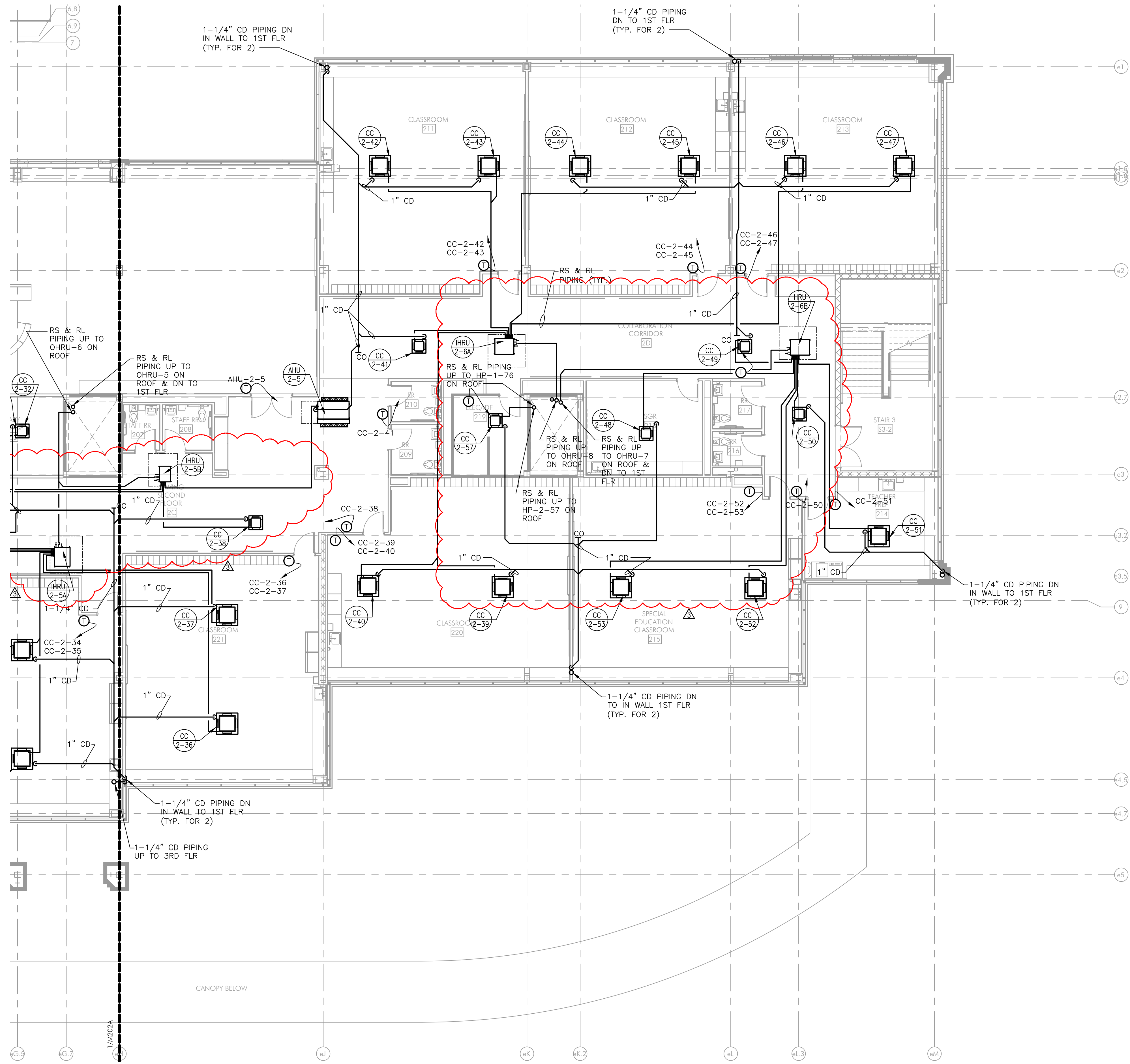
DRAWING NUMBER

M202B

- NOTES:
1. FOR GENERAL NOTES, REFER TO DRAWING M001.
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MECHANICAL PIPING SECOND FLOOR PLAN - SECTOR B

SCALE: 1/8\"/>

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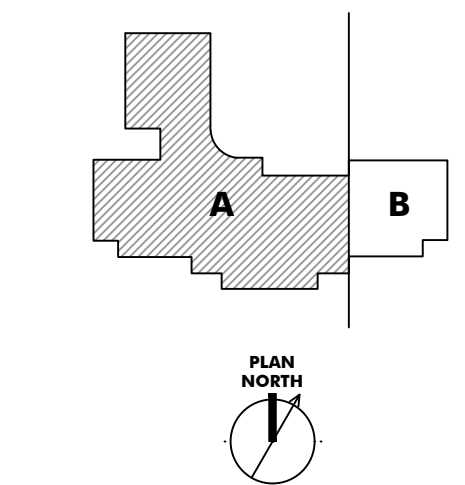
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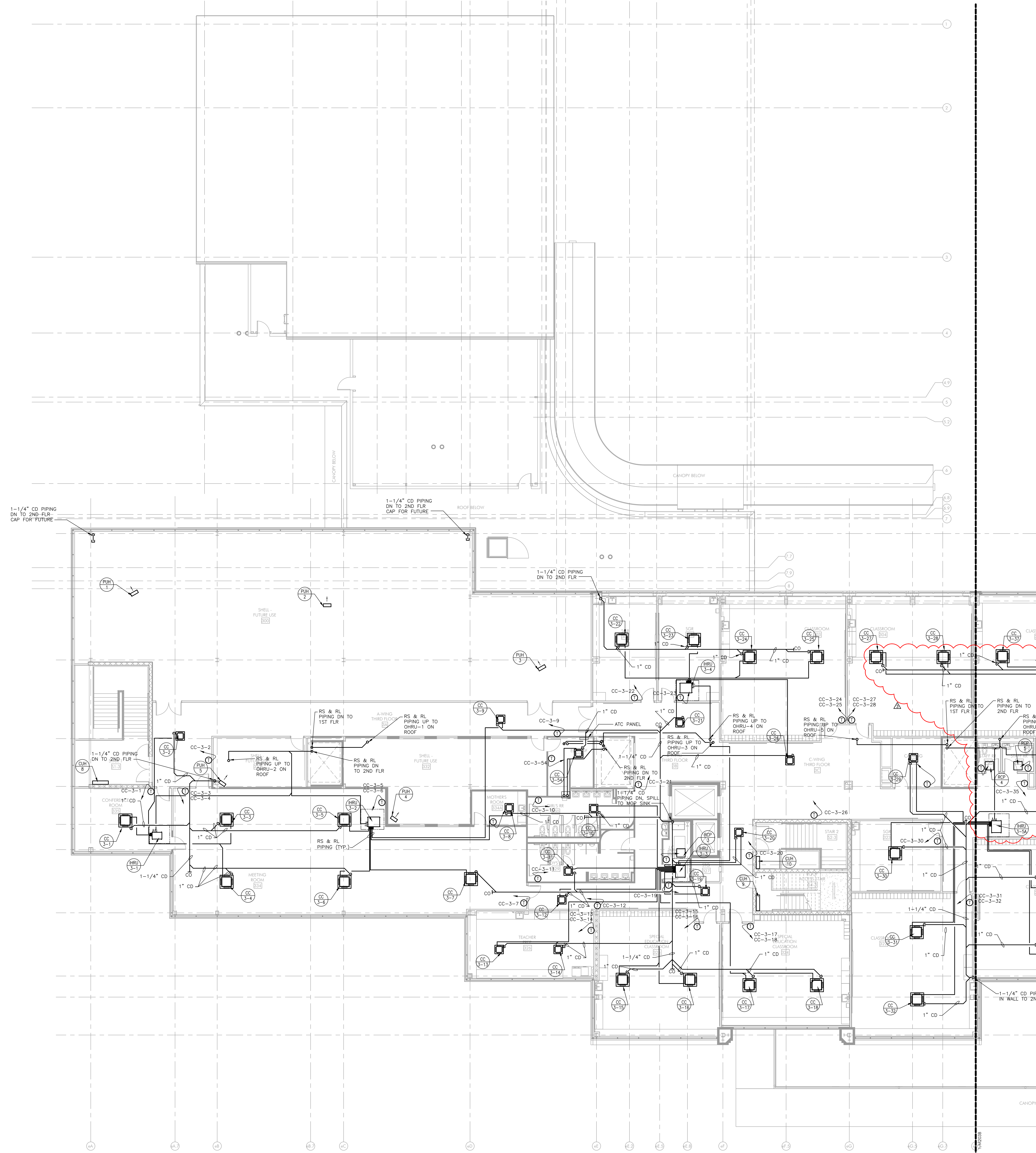
SHEET TITLE
MECHANICAL PIPING
THIRD FLOOR PLAN -
SECTOR A

DRAWING NUMBER
M203A

- NOTES:
- FOR GENERAL NOTES, REFER TO DRAWING M001.
 - REFER TO DWG M500 SERIES DRAWINGS FOR ADDITIONAL REFRIGERANT PIPING REQUIREMENTS.

NEW WORK KEY NOTES:

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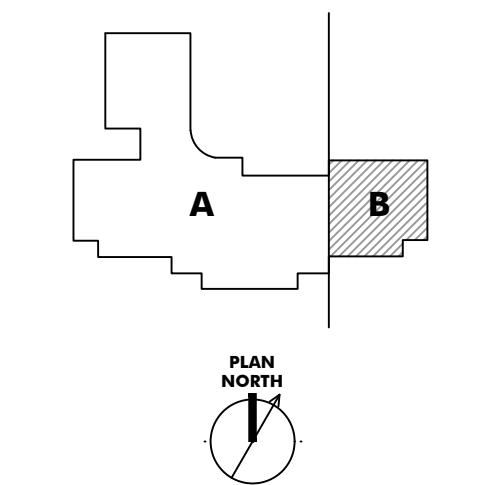
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SHEET TITLE
MECHANICAL PIPING
THIRD FLOOR PLAN -
SECTOR B

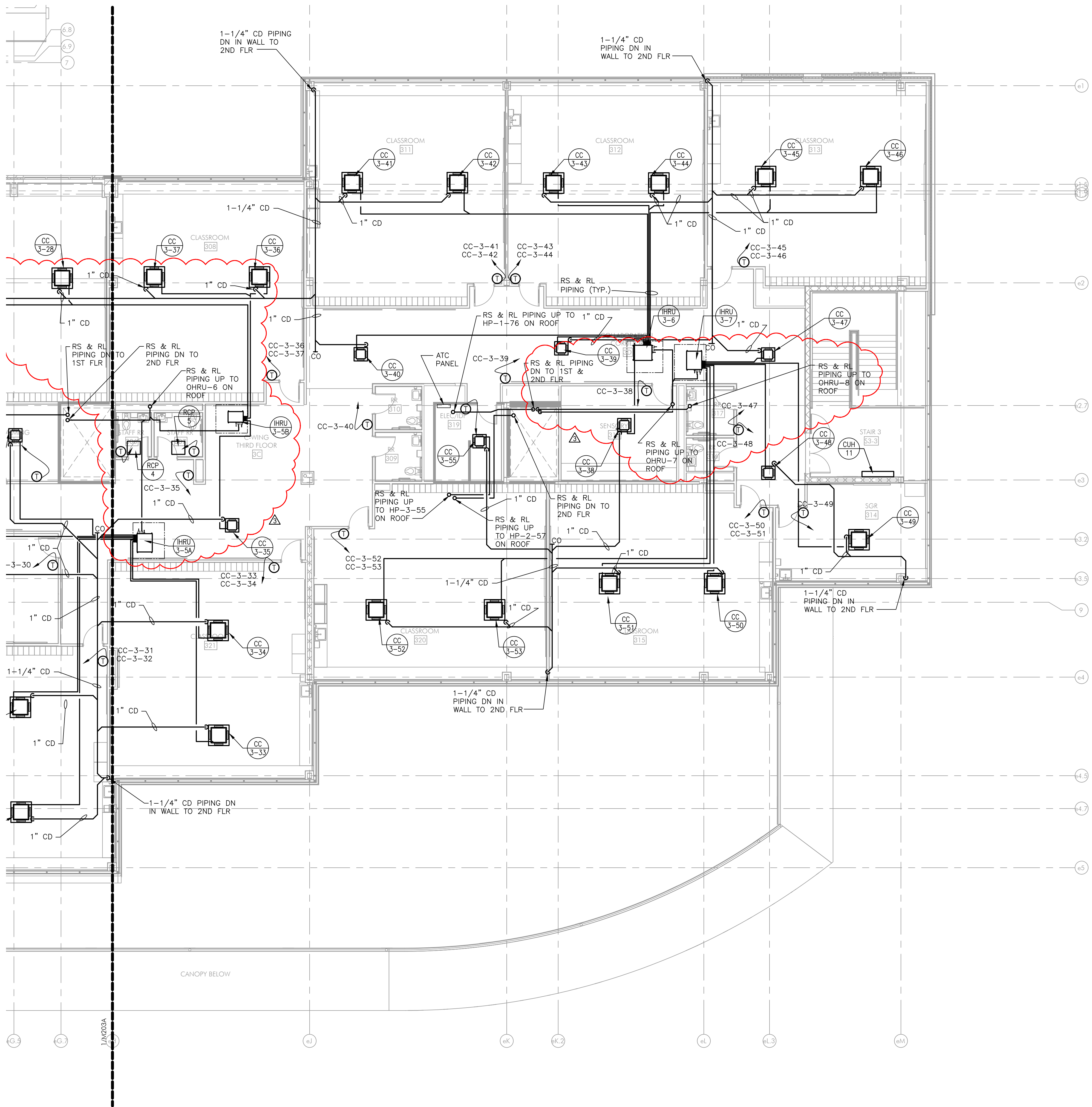
DRAWING NUMBER

M203B

- NOTES:
- FOR GENERAL NOTES, REFER TO DRAWING M001.
 - REFER TO DWG M500 SERIES DRAWINGS FOR ADDITIONAL REFRIGERANT PIPING REQUIREMENTS.

NEW WORK KEY NOTES:

- RUN CONDENSATE DOWN IN CHASE TO EXTERIOR, W/ ELBOW AND SPILL 4" ABOVE GRADE ONTO CONCRETE SPLASH BLOCK. PROVIDE SEPARATE RISERS FOR EACH FLOOR. MAKE PENETRATION THROUGH WALL WEATHER-TIGHT. CONNECT CONDENSATE PIPING TO INDOOR UNITS.
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MECHANICAL PIPING THIRD FLOOR PLAN - SECTOR B

SCALE: 1/8\"=1'-0"

M301

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| HEAT PUMP UNIT SCHEDULE | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------|------|---|--|---------------------------------|------------|----------|---------------------|------|----------------------------|-------|-------|-------------|--------------|-----------------------|------|------------|-------------------------------|-------------------------------------|----------------------|--|-------------|--------------|---------------------|
| UNIT TAG | TONS | COOLING CAPACITY BTU/H @ 85 °F AMBIENT | HEATING CAPACITY BTU/H @ 1 °F AMBIENT | HEAT RECOVERY CAPACITY BTU/H | COMPRESSOR | | CONDENSER FAN MOTOR | | ELECTRICAL CHARACTERISTICS | | | | | MAX. AMBIENT TEMP. °F | IEER | HSPF (COP) | MAXIMUM DIMENSIONS, IN. LxWxH | MAXIMUM SOUND PRESSURE LEVEL, dB(A) | OPERATING WEIGHT LBS | BASIS OF DESIGN MANUFACTURER AND MODEL NO. | | | |
| | | | | | QTY. | H.P. EA. | FLA EA. | QTY. | VOLTS | PHASE | CYCLE | MCA FRAME A | MOCF FRAME A | | | | | | | | MCA FRAME B | MOCF FRAME B | |
| OHRU-1 | 30 | 306,660 | 237,815 | 237,815 | 4 | — | — | 4 | — | 460 | 3 | 60 | 30.7 | 35 | 27.1 | 30 | 95 | 18.9 | (3.4) | 119x31x66 | 70 | 1,773 | DAIKEN REY436A0YDA |
| OHRU-2 | 38 | 364,067 | 261,733 | 261,733 | 4 | — | — | 4 | — | 460 | 3 | 60 | 35.1 | 40 | 32.5 | 40 | 95 | 15.6 | (3.2) | 140x31x66 | 72 | 1,945 | DAIKEN REY456A0YDA |
| OHRU-3 | 32 | 327,542 | 266,569 | 266,569 | 4 | — | — | 4 | — | 460 | 3 | 60 | 30.7 | 35 | 30.7 | 35 | 95 | 17.3 | (3.2) | 140x31x66 | 71 | 1,945 | DAIKEN REY438A4YDA |
| OHRU-4 | 20 | 200,192 | 139,488 | 139,488 | 2 | — | — | 2 | — | 460 | 3 | 60 | 35.1 | 40 | — | — | 95 | 17.2 | (3.2) | 69x31x66 | 69 | 975 | DAIKEN REY424A0YDA |
| OHRU-5 | 18 | 180,202 | 138,544 | 138,544 | 2 | — | — | 2 | — | 460 | 3 | 60 | 32.8 | 40 | — | — | 95 | 17.2 | (3.2) | 69x31x66 | 68 | 975 | DAIKEN REY4216A0YDA |
| OHRU-6 | 34 | 347,252 | 265,570 | 265,570 | 4 | — | — | 4 | — | 460 | 3 | 60 | 32.8 | 40 | 30.7 | 35 | 95 | 17.3 | (3.2) | 119x31x66 | 70 | 1,945 | DAIKEN REY408A0YDA |
| OHRU-7 | 30 | 311,978 | 239,166 | 239,166 | 4 | — | — | 4 | — | 460 | 3 | 60 | 30.7 | 35 | 27.1 | 30 | 95 | 18.9 | (3.4) | 119x31x66 | 70 | 1,773 | DAIKEN REY436A0YDA |
| OHRU-8 | 38 | 374,447 | 273,796 | 273,796 | 4 | — | — | 4 | — | 460 | 3 | 60 | 35.1 | 40 | 32.5 | 40 | 95 | 15.6 | (3.2) | 140x31x66 | 72 | 1,945 | DAIKEN REY456A0YDA |
| OHRU-9 | 12 | 127,583 | 105,603 | 105,603 | 2 | — | — | 2 | — | 460 | 3 | 60 | 23.3 | 30 | — | — | 95 | 18.1 | (3.3) | 49x31x66 | 65 | 805 | DAIKEN REY4144A0YDA |

1. PROVIDE ALL UNITS WITH NON-FUSED, UNISTRUT MOUNTED DISCONNECT SWITCH FOR EACH CIRCUIT BY THE EC.
2. PROVIDE ALL UNITS WITH HEAT RECOVERY FOR SIMULTANEOUS HEATING & COOLING.
3. PROVIDE ALL UNITS COMPLETE WITH OVER/UNDER VOLTAGE AND PHASE LOSS PROTECTION KIT.
4. PROVIDE SYSTEM COMPLETE WITH INTELLIGENT TOUCH MANAGER AND HERO SIMPLE EDGE CLOUD COMMUNICATION ADAPTOR W/ BACNET INTERFACE.

| SPLIT SYSTEM WALL CASSETTE UNIT SCHEDULE | | | | | | | | | | | | | | | | |
|--|-------------|------------------|---------------------|---------------------|----------------------------|-------|-------|-----|-------------------------------|-----------------------|--|-----------|--|--|--|--|
| UNIT TAG | AREA SERVED | TOTAL SUPPLY CFM | TOTAL COOLING BTU/H | TOTAL HEATING BTU/H | ELECTRICAL CHARACTERISTICS | | | | MAXIMUM DIMENSIONS, IN. LxWxH | OPERATING WEIGHT LBS. | BASIS OF DESIGN MANUFACTURER & MODEL NO. | SERVED BY | | | | |
| | | | | | VOLTS | PHASE | CYCLE | FLA | | | | | | | | |
| WC-1-1-1 | ELEV MR 142 | 605 | 18,100 | 21,600 | 208 | 1 | 60 | - | 40x11x12 | 31 | DAIKIN FTXF18AXVJU | HP-1-1-1 | | | | |

1. PROVIDE UNIT WITH WALL MOUNTED HARD-WIRED THERMOSTAT.
2. PROVIDE UNIT WITH NON-FUSED, UNIT MOUNTED DISCONNECT SWITCH BY THE EC.

| AIR COOLED HEAT PUMP UNIT SCHEDULE | | | | | | | | | | | | | | | | | | | | |
|------------------------------------|------|------------|----------|---------|---------------------|----------|---------|----------------------------|-------|-------|------|------|-----------------------|-------|------|-----------------------|-------------------------------|--------------------|--|--|
| UNIT TAG | TONS | COMPRESSOR | | | CONDENSER FAN MOTOR | | | ELECTRICAL CHARACTERISTICS | | | | | MAX. AMBIENT TEMP. °F | SEER2 | COP2 | OPERATING WEIGHT, LBS | MAXIMUM DIMENSIONS, IN. LxWxH | INDOOR UNIT SERVED | BASIS OF DESIGN MANUFACTURER AND MODEL NO. | |
| | | QTY. | H.P. EA. | FLA EA. | QTY. | H.P. EA. | FLA EA. | VOLTS | PHASE | CYCLE | MCA | MOCF | | | | | | | | |
| HP-1-1 | 1.5 | 1 | — | — | — | — | — | 208 | 1 | 60 | 16.3 | 20 | 122 | 21.0 | 3.6 | 105 | 37x14x28 | WC-1-1 | DAIKIN RXF18AXVJU | |
| HP-1-75 | 1.5 | 1 | — | 10.8 | 1 | — | 0.6 | 208 | 1 | 60 | 11.0 | 15 | 115 | 18.2 | 3.0 | 100 | 35x13x29 | CC-1-61 | DAIKIN RX18RMJU9A | |
| HP-1-76 | 3.0 | 1 | — | 19.0 | 2 | — | — | 208 | 1 | 60 | 29.1 | 35 | 122 | 17.6 | 2.6 | 225 | 36x13x53 | CC-1-62 | DAIKIN RQ236TAJU9A | |
| HP-2-54 | 1.5 | 1 | — | 10.8 | 1 | — | 0.6 | 208 | 1 | 60 | 11.0 | 15 | 115 | 18.2 | 3.0 | 100 | 35x13x29 | CC-2-54 | DAIKIN RX18RMJU9A | |
| HP-2-55 | 1.5 | 1 | — | 10.8 | 1 | — | 0.6 | 208 | 1 | 60 | 11.0 | 15 | 115 | 18.2 | 3.0 | 100 | 35x13x29 | CC-2-55 | DAIKIN RX18RMJU9A | |
| HP-3-54 | 1.5 | 1 | — | 10.8 | 1 | — | 0.6 | 208 | 1 | 60 | 11.0 | 15 | 115 | 18.2 | 3.0 | 100 | 35x13x29 | CC-1-61 | DAIKIN RX18RMJU9A | |
| HP-3-55 | 1.5 | 1 | — | 10.8 | 1 | — | 0.6 | 208 | 1 | 60 | 11.0 | 15 | 115 | 18.2 | 3.0 | 100 | 35x13x29 | CC-1-61 | DAIKIN RX18RMJU9A | |

1. EC TO PROVIDE NON-FUSED UNISTRUT MOUNTED DISCONNECT SWITCH.
2. PROVIDE ALL UNITS COMPLETE WITH LOW AMBIENT OPERATION DOWN TO 0°F.
3. PROVIDE ALL UNITS COMPLETE WITH DKN PLUS INTERFACE.

| VRF INDOOR HEAT RECOVERY UNIT SCHEDULE | | | | | | | | | | | | | | | | | |
|--|---------------------|--------------|-------------------------|-------------------------|----------------------------|-------|-------|-----|------|-------------------------------|----------------------|--|--|--|--|--|--|
| UNIT TAG | OUTDOOR UNIT SERVED | NO. OF PORTS | MAX PORT CAPACITY BTU/H | MAX UNIT CAPACITY BTU/H | ELECTRICAL CHARACTERISTICS | | | | | MAXIMUM DIMENSIONS, IN. LxWxH | OPERATING WEIGHT LBS | BASIS OF DESIGN MANUFACTURER AND MODEL NO. | | | | | |
| | | | | | VOLTS | PHASE | CYCLE | MCA | MOCP | | | | | | | | |
| IHRU-1-1 | OHRU-1 | 8 | 162,000 | 290,000 | 208 | 1 | 60 | 1.9 | 15 | 34x28x10 | 111 | DAIKIN BSF854AAVJU | | | | | |
| IHRU-1-2 | OHRU-1 | 6 | 162,000 | 216,000 | 208 | 1 | 60 | 1.9 | 15 | 34x28x10 | 100 | DAIKIN BSF854AAVJU | | | | | |
| IHRU-1-3 | OHRU-9 | 8 | 162,000 | 290,000 | 208 | 1 | 60 | 1.9 | 15 | 34x28x10 | 111 | DAIKIN BSF854AAVJU | | | | | |
| IHRU-1-4A | OHRU-3 | 6 | 162,000 | 216,000 | 208 | 1 | 60 | 1.9 | 15 | 34x28x10 | 100 | DAIKIN BSF854AAVJU | | | | | |
| IHRU-1-4B | OHRU-3 | 4 | 54,000 | 144,000 | 208 | 1 | 60 | 1.2 | 15 | 20x28x10 | 73 | DAIKIN BSF854AAVJU | | | | | |
| IHRU-1-5A | OHRU-5 | 6 | 162,000 | 216,000 | 208 | 1 | 60 | 1.9 | 15 | 34x28x10 | 100 | DAIKIN BSF854AAVJU | | | | | |
| IHRU-1-5B | OHRU-5 | 4 | 54,000 | 144,000 | 208 | 1 | 60 | 1.2 | 15 | 20x28x10 | 73 | DAIKIN BSF854AAVJU | | | | | |
| IHRU-1-6 | OHRU-5 | 4 | 54,000 | 144,000 | 208 | 1 | 60 | 1.2 | 15 | 20x28x10 | 73 | DAIKIN BSF854AAVJU | | | | | |
| IHRU-1-7 | OHRU-7 | 8 | 162,000 | 290,000 | 208 | 1 | 60 | 1.9 | 15 | 34x28x10 | 111 | DAIKIN BSF854AAVJU | | | | | |
| IHRU-1-8 | OHRU-7 | 8 | 162,000 | 290,000 | 208 | 1 | 60 | 1.9 | 15 | 34x28x10 | 111 | DAIKIN BSF854AAVJU | | | | | |
| IHRU-2-1A | OHRU-2 | 6 | 162,000 | 216,000 | 208 | 1 | 60 | 1.9 | 15 | 34x28x10 | 100 | DAIKIN BSF854AAVJU | | | | | |
| IHRU-2-1B | OHRU-2 | 4 | 54,000 | 144,000 | 208 | 1 | 60 | 1.2 | 15 | 20x28x10 | 73 | DAIKIN BSF854AAVJU | | | | | |
| IHRU-2-2 | OHRU-2 | 4 | 54,000 | 144,000 | 208 | 1 | 60 | 1.2 | 15 | 20x28x10 | 73 | DAIKIN BSF854AAVJU | | | | | |
| IHRU-2-3 | OHRU-3 | 8 | 162,000 | 290,000 | 208 | 1 | 60 | 1.9 | 15 | 34x28x10 | 111 | DAIKIN BSF854AAVJU | | | | | |
| IHRU-2-4 | OHRU-3 | 6 | 162,000 | 216,000 | 208 | 1 | 60 | 1.9 | 15 | 34x28x10 | 100 | DAIKIN BSF854AAVJU | | | | | |
| IHRU-2-5A | OHRU-6 | 6 | 162,000 | 216,000 | 208 | 1 | 60 | 1.9 | 15 | 34x28x10 | 100 | DAIKIN BSF854AAVJU | | | | | |
| IHRU-2-5B | OHRU-6 | 4 | 54,000 | 144,000 | 208 | 1 | 60 | 1.2 | 15 | 20x28x10 | 73 | DAIKIN BSF854AAVJU | | | | | |
| IHRU-2-6A | OHRU-8 | 6 | 162,000 | 216,000 | 208 | 1 | 60 | 1.9 | 15 | 34x28x10 | 100 | DAIKIN BSF854AAVJU | | | | | |
| IHRU-2-6B | OHRU-7 | 6 | 162,000 | 216,000 | 208 | 1 | 60 | 1.9 | 15 | 34x28x10 | 100 | DAIKIN BSF854AAVJU | | | | | |
| IHRU-3-1 | OHRU-2 | 4 | 54,000 | 144,000 | 208 | 1 | 60 | 1.2 | 15 | 20x28x10 | 73 | DAIKIN BSF854AAVJU | | | | | |
| IHRU-3-2 | OHRU-2 | 4 | 54,000 | 144,000 | 208 | 1 | 60 | 1.2 | 15 | 20x28x10 | 73 | DAIKIN BSF854AAVJU | | | | | |
| IHRU-3-3 | OHRU-4 | 8 | 162,000 | 290,000 | 208 | 1 | 60 | 1.9 | 15 | 34x28x10 | 111 | DAIKIN BSF854AAVJU | | | | | |
| IHRU-3-4 | OHRU-4 | 6 | 162,000 | 216,000 | 208 | 1 | 60 | 1.9 | 15 | 34x28x10 | 100 | DAIKIN BSF854AAVJU | | | | | |
| IHRU-3-5A | OHRU-6 | 6 | 162,000 | 216,000 | 208 | 1 | 60 | 1.9 | 15 | 34x28x10 | 100 | DAIKIN BSF854AAVJU | | | | | |
| IHRU-3-5B | OHRU-6 | 4 | 54,000 | 144,000 | 208 | 1 | 60 | 1.2 | 15 | 20x28x10 | 73 | DAIKIN BSF854AAVJU | | | | | |
| IHRU-3-6 | OHRU-8 | 6 | 162,000 | 216,000 | 208 | 1 | 60 | 1.9 | 15 | 34x28x10 | 100 | DAIKIN BSF854AAVJU | | | | | |
| IHRU-3-7 | OHRU-8 | 6 | 162,000 | 216,000 | 208 | 1 | 60 | 1.9 | 15 | 34x28x10 | 100 | DAIKIN BSF854AAVJU | | | | | |

1. PROVIDE UNIT WITH NON-FUSED, UNIT MOUNTED DISCONNECT SWITCH BY THE EC.
2. REFER TO DWG M500 SERIES DRAWINGS FOR PIPING DIAGRAMS AND INDOOR UNITS SERVED BY IHRUS.

| VRF AIR HANDLING UNIT SCHEDULE | | | | | | | | | | | | | | | | | | | |
|--------------------------------|----------------------|-------------------------------|------------|----------------------------|---|----------------------------|---|----------------------------|-------|-------|-----|-------------------------------|-----------------------|--|--------------------|-----------|--------|--|--|
| UNIT TAG | AREA SERVED | TOTAL SUPPLY CFM MEDIUM SPEED | ESP IN. WC | RATED TOTAL COOLING BTU/HR | CORRECTED TOTAL COOLING BTU/HR AT 75°F DB/62.5°F WB ROOM CONDITIONS | RATED TOTAL HEATING BTU/HR | CORRECTED TOTAL HEATING BTU/HR AT 70°F DB/58.4°F WB ROOM CONDITIONS | ELECTRICAL CHARACTERISTICS | | | | MAXIMUM DIMENSIONS, IN. LxWxH | OPERATING WEIGHT LBS. | BASIS OF DESIGN MANUFACTURER & MODEL NO. | FILTER BOX MODEL | SERVED BY | | | |
| | | | | | | | | VOLTS | PHASE | CYCLE | MCA | MOP | | | | | | | |
| AHU-1-1 | KITCHEN 150 | 1,377 | 0.5 | 48,000 | 41,461 | 54,000 | 54,000 | 208 | 1 | 60 | 3.6 | 15 | 52x56x11 | 132 | DAIKEN FXMA48AAVJU | DFB555A13 | OHRU-9 | | |
| AHU-1-2 | STAGE 101 | 1,377 | 0.5 | 48,000 | 41,461 | 54,000 | 54,000 | 208 | 1 | 60 | 3.6 | 15 | 52x56x11 | 132 | DAIKEN FXMA48AAVJU | DFB555A13 | OHRU-9 | | |
| AHU-2-1 | LARGE GROUP ROOM 234 | 1,377 | 0.5 | 48,000 | 41,461 | 54,000 | 54,000 | 208 | 1 | 60 | 3.6 | 15 | 52x56x11 | 132 | DAIKEN FXMA48AAVJU | DFB555A13 | OHRU-2 | | |
| AHU-2-2 | LARGE GROUP ROOM 234 | 1,377 | 0.5 | 48,000 | 41,461 | 54,000 | 54,000 | 208 | 1 | 60 | 3.6 | 15 | 52x56x11 | 132 | DAIKEN FXMA48AAVJU | DFB555A13 | OHRU-2 | | |
| AHU-2-3 | LIBRARY 206 | 1,100 | 0.5 | 30,000 | 25,916 | 34,000 | 34,000 | 208 | 1 | 60 | 3.0 | 15 | 40x56x11 | 132 | DAIKEN FXMA30AAVJU | DFB555A13 | OHRU-6 | | |
| AHU-2-4 | LIBRARY 206 | 1,100 | 0.5 | 30,000 | 25,916 | 34,000 | 34,000 | 208 | 1 | 60 | 3.0 | 15 | 40x56x11 | 132 | DAIKEN FXMA30AAVJU | DFB555A13 | OHRU-6 | | |
| AHU-2-5 | LIBRARY 206 | 1,100 | 0.5 | 30,000 | 25,916 | 34,000 | 34,000 | 208 | 1 | 60 | 3.0 | 15 | 40x56x11 | 132 | DAIKEN FXMA30AAVJU | DFB555A13 | OHRU-6 | | |

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NOT FOR
CONSTRUCTION

| SPLIT SYSTEM CEILING CASSETTE UNIT SCHEDULE | | | | | | | | | | | | | | | | |
|---|-----------------------|-------------------------------|-------------|----------------------|---|----------------------|----------------------------------|----------------------------|-------|-------|-----------|-----|-------------------------------|-----------------------|--|-----------|
| UNIT TAG | AREA SERVED | TOTAL SUPPLY CFM MEDIUM SPEED | MINIMUM CFM | TOTAL COOLING BTU/HR | CORRECTED TOTAL COOLING BTU/HR AT 72°F DB/62.5°F WB | TOTAL HEATING BTU/HR | CORRECTED HEATING BTU/HR (70° F) | ELECTRICAL CHARACTERISTICS | | | | | MAXIMUM DIMENSIONS, IN. LxWxH | OPERATING WEIGHT LBS. | BASIS OF DESIGN MANUFACTURER & MODEL NO. | SERVED BY |
| | | | | | | | | VOLTS | PHASE | CYCLE | MCA (FLA) | MOP | | | | |
| CC-2-1 | TEACHER PREP 239 | 618 | -- | 23,000 | 19,397 | 27,000 | 26,999 | 208 | 1 | 60 | 0.5 | 15 | 34x34x12 | 51 | DAIKIN FXFA24AAVJU | OHRU-2 |
| CC-2-2 | CORRIDOR - 2ND FLR | 441 | -- | 18,000 | 15,183 | 20,000 | 20,121 | 208 | 1 | 60 | 0.6 | 15 | 24x24x12 | 42 | DAIKIN FXFA18AAVJU | OHRU-2 |
| CC-2-3 | SCIENCE A 200 | 618 | -- | 23,000 | 19,397 | 27,000 | 26,999 | 208 | 1 | 60 | 0.5 | 15 | 34x34x12 | 51 | DAIKIN FXFA24AAVJU | OHRU-2 |
| CC-2-4 | SCIENCE A 200 | 618 | -- | 23,000 | 19,397 | 27,000 | 26,999 | 208 | 1 | 60 | 0.5 | 15 | 34x34x12 | 51 | DAIKIN FXFA24AAVJU | OHRU-2 |
| CC-2-5 | SCIENCE B 202 | 459 | -- | 14,400 | 12,147 | 17,000 | 16,992 | 208 | 1 | 60 | 0.4 | 15 | 34x34x12 | 42 | DAIKIN FXFA15AAVJU | OHRU-2 |
| CC-2-6 | SCIENCE B 202 | 459 | -- | 14,400 | 12,147 | 17,000 | 16,992 | 208 | 1 | 60 | 0.4 | 15 | 34x34x12 | 42 | DAIKIN FXFA15AAVJU | OHRU-2 |
| CC-2-7 | MUSIC 203 | 477 | -- | 18,000 | 15,149 | 20,000 | 19,999 | 208 | 1 | 60 | 0.4 | 15 | 34x34x12 | 42 | DAIKIN FXFQ18AAVJU | OHRU-2 |
| CC-2-8 | MUSIC 203 | 477 | -- | 18,000 | 15,149 | 20,000 | 19,999 | 208 | 1 | 60 | 0.4 | 15 | 34x34x12 | 42 | DAIKIN FXFQ18AAVJU | OHRU-2 |
| CC-2-9 | A-WING 2ND FLR - 2A | 264 | -- | 7,500 | 6,483 | 8,500 | 8,527 | 208 | 1 | 60 | 0.3 | 15 | 24x24x12 | 36 | DAIKIN FXZA07AAVJU | OHRU-2 |
| CC-2-10 | MUSIC OFFICE 203A | 264 | 30 | 7,500 | 6,483 | 8,500 | 8,527 | 208 | 1 | 60 | 0.3 | 15 | 24x24x12 | 36 | DAIKIN FXZA07AAVJU | OHRU-2 |
| CC-2-11 | MUSIC PRACTICE 203B | 282 | -- | 9,500 | 8,018 | 10,500 | 10,574 | 208 | 1 | 60 | 0.3 | 15 | 24x24x12 | 36 | DAIKIN FXZA09AAVJU | OHRU-2 |
| CC-2-12 | A-WING 2ND FLR - 2A | 264 | -- | 7,500 | 6,483 | 8,500 | 8,527 | 208 | 1 | 60 | 0.3 | 15 | 24x24x12 | 36 | DAIKIN FXZA07AAVJU | OHRU-2 |
| CC-2-13 | SCIENCE PREP 201 | 247 | -- | 5,800 | 4,947 | 6,500 | 6,483 | 208 | 1 | 60 | 0.3 | 15 | 24x24x12 | 36 | DAIKIN FXZA05AAVJU | OHRU-2 |
| CC-2-14 | SCIENCE PREP 201 | 247 | -- | 5,800 | 4,947 | 6,500 | 6,483 | 208 | 1 | 60 | 0.3 | 15 | 24x24x12 | 36 | DAIKIN FXZA05AAVJU | OHRU-2 |
| CC-2-15 | STG 234A | 264 | 30 | 7,500 | 6,483 | 8,500 | 8,527 | 208 | 1 | 60 | 0.3 | 15 | 24x24x12 | 36 | DAIKIN FXZA07AAVJU | OHRU-2 |
| CC-2-16 | MUSIC STG 233 | 282 | -- | 9,500 | 8,018 | 10,500 | 10,574 | 208 | 1 | 60 | 0.3 | 15 | 24x24x12 | 36 | DAIKIN FXZA09AAVJU | OHRU-3 |
| CC-2-17 | ART STG 205A | 247 | -- | 5,800 | 4,947 | 6,500 | 6,483 | 208 | 1 | 60 | 0.3 | 15 | 24x24x12 | 36 | DAIKIN FXZA05AAVJU | OHRU-3 |
| CC-2-18 | MUSIC STG 204 | 282 | -- | 9,500 | 8,018 | 10,500 | 10,574 | 208 | 1 | 60 | 0.3 | 15 | 24x24x12 | 36 | DAIKIN FXZA09AAVJU | OHRU-3 |
| CC-2-19 | KILN 205B | 300 | -- | 12,000 | 10,236 | 13,500 | 13,642 | 208 | 1 | 60 | 0.4 | 15 | 24x24x12 | 37 | DAIKIN FXZA12AAVJU | OHRU-3 |
| CC-2-20 | ART 205 | 406 | -- | 12,000 | 10,100 | 13,500 | 13,512 | 208 | 1 | 60 | 0.3 | 15 | 34x34x12 | 42 | DAIKIN FXFA12AAVJU | OHRU-3 |
| CC-2-21 | ART 205 | 406 | -- | 12,000 | 10,100 | 13,500 | 13,512 | 208 | 1 | 60 | 0.3 | 15 | 34x34x12 | 42 | DAIKIN FXFA12AAVJU | OHRU-3 |
| CC-2-22 | B-WING 2ND FLR - 2B | 264 | -- | 7,500 | 6,483 | 8,500 | 8,527 | 208 | 1 | 60 | 0.3 | 15 | 24x24x12 | 36 | DAIKIN FXZA07AAVJU | OHRU-3 |
| CC-2-23 | B-WING 2ND FLR - 2B | 264 | -- | 7,500 | 6,483 | 8,500 | 8,527 | 208 | 1 | 60 | 0.3 | 15 | 24x24x12 | 36 | DAIKIN FXZA07AAVJU | OHRU-3 |
| CC-2-24 | SGR 226 | 441 | -- | 18,000 | 15,183 | 20,000 | 20,121 | 208 | 1 | 60 | 0.6 | 15 | 24x24x12 | 42 | DAIKIN FXZA18AAVJU | OHRU-3 |
| CC-2-25 | SGR 226 | 441 | -- | 18,000 | 15,183 | 20,000 | 20,121 | 208 | 1 | 60 | 0.6 | 15 | 24x24x12 | 42 | DAIKIN FXZA18AAVJU | OHRU-3 |
| CC-2-26 | SGR 225 | 618 | -- | 23,000 | 19,397 | 27,000 | 26,999 | 208 | 1 | 60 | 0.5 | 15 | 34x34x12 | 51 | DAIKIN FXFA24AAVJU | OHRU-3 |
| CC-2-27 | B-WING 2ND FLR - 2B | 264 | -- | 7,500 | 6,483 | 8,500 | 8,527 | 208 | 1 | 60 | 0.3 | 15 | 24x24x12 | 36 | DAIKIN FXZA07AAVJU | OHRU-3 |
| CC-2-28 | SGR 224 | 441 | -- | 18,000 | 15,183 | 20,000 | 20,121 | 208 | 1 | 60 | 0.6 | 15 | 24x24x12 | 42 | DAIKIN FXZA18AAVJU | OHRU-3 |
| CC-2-29 | SGR 223 | 300 | -- | 12,000 | 10,236 | 13,500 | 13,642 | 208 | 1 | 60 | 0.4 | 15 | 24x24x12 | 37 | DAIKIN FXZA12AAVJU | OHRU-3 |
| CC-2-30 | SGR 223 | 300 | -- | 12,000 | 10,236 | 13,500 | 13,642 | 208 | 1 | 60 | 0.4 | 15 | 24x24x12 | 37 | DAIKIN FXZA12AAVJU | OHRU-3 |
| CC-2-31 | LIBRARY OFFICE 206A | 282 | 30 | 9,500 | 8,018 | 10,500 | 10,574 | 208 | 1 | 60 | 0.3 | 15 | 24x24x12 | 36 | DAIKIN FXZA09AAVJU | OHRU-6 |
| CC-2-32 | LIBRARY STORAGE 206B | 247 | 30 | 5,800 | 4,947 | 6,500 | 6,483 | 208 | 1 | 60 | 0.3 | 15 | 24x24x12 | 36 | DAIKIN FXZA05AAVJU | OHRU-6 |
| CC-2-33 | C-WING 2ND FLR - 2C | 264 | -- | 7,500 | 6,483 | 8,500 | 8,527 | 208 | 1 | 60 | 0.3 | 15 | 24x24x12 | 36 | DAIKIN FXZA07AAVJU | OHRU-6 |
| CC-2-34 | CLASSROOM 222 | 618 | -- | 23,000 | 19,397 | 27,000 | 26,999 | 208 | 1 | 60 | 0.5 | 15 | 34x34x12 | 51 | DAIKIN FXFA24AAVJU | OHRU-6 |
| CC-2-35 | CLASSROOM 222 | 618 | -- | 23,000 | 19,397 | 27,000 | 26,999 | 208 | 1 | 60 | 0.5 | 15 | 34x34x12 | 51 | DAIKIN FXFA24AAVJU | OHRU-6 |
| CC-2-36 | CLASSROOM 221 | 882 | -- | 30,000 | 25,249 | 34,000 | 33,999 | 208 | 1 | 60 | 1.0 | 15 | 34x34x12 | 58 | DAIKIN FXFA30AAVJU | OHRU-6 |
| CC-2-37 | CLASSROOM 221 | 882 | -- | 30,000 | 25,249 | 34,000 | 33,999 | 208 | 1 | 60 | 1.0 | 15 | 34x34x12 | 58 | DAIKIN FXFA30AAVJU | OHRU-6 |
| CC-2-38 | C-WING 2ND FLR - 2C | 264 | -- | 7,500 | 6,483 | 8,500 | 8,527 | 208 | 1 | 60 | 0.3 | 15 | 24x24x12 | 36 | DAIKIN FXZA07AAVJU | OHRU-6 |
| CC-2-39 | CLASSROOM 220 | 882 | -- | 30,000 | 25,249 | 34,000 | 33,999 | 208 | 1 | 60 | 1.0 | 15 | 34x34x12 | 58 | DAIKIN FXFA30AAVJU | OHRU-6 |
| CC-2-40 | CLASSROOM 220 | 618 | -- | 23,000 | 19,397 | 27,000 | 26,999 | 208 | 1 | 60 | 0.5 | 15 | 34x34x12 | 51 | DAIKIN FXFA24AAVJU | OHRU-6 |
| CC-2-41 | COLLABORATION CORR 2D | 282 | -- | 9,500 | 8,018 | 10,500 | 10,574 | 208 | 1 | 60 | 0.3 | 15 | 24x24x12 | 36 | DAIKIN FXZA09AAVJU | OHRU-6 |
| CC-2-42 | CLASSROOM 211 | 477 | -- | 18,000 | 15,149 | 20,000 | 19,999 | 208 | 1 | 60 | 0.4 | 15 | 34x34x12 | 42 | DAIKIN FXFQ18AAVJU | OHRU-6 |
| CC-2-43 | CLASSROOM 211 | 477 | -- | 18,000 | 15,149 | 20,000 | 19,999 | 208 | 1 | 60 | 0.4 | 15 | 34x34x12 | 42 | DAIKIN FXFQ18AAVJU | OHRU-6 |
| CC-2-44 | CLASSROOM 212 | 477 | -- | 18,000 | 15,149 | 20,000 | 19,999 | 208 | 1 | 60 | 0.4 | 15 | 34x34x12 | 42 | DAIKIN FXFQ18AAVJU | OHRU-6 |
| CC-2-45 | CLASSROOM 212 | 477 | -- | 18,000 | 15,149 | 20,000 | 19,999 | 208 | 1 | 60 | 0.4 | 15 | 34x34x12 | 42 | DAIKIN FXFQ18AAVJU | OHRU-6 |
| CC-2-46 | CLASSROOM 213 | 477 | -- | 18,000 | 15,149 | 20,000 | 19,999 | 208 | 1 | 60 | 0.4 | 15 | 34x34x12 | 42 | DAIKIN FXFQ18AAVJU | OHRU-6 |
| CC-2-47 | CLASSROOM 213 | 477 | -- | 18,000 | 15,149 | 20,000 | 19,999 | 208 | 1 | 60 | 0.4 | 15 | 34x34x12 | 42 | DAIKIN FXFQ18AAVJU | OHRU-6 |
| CC-2-48 | SGR 218 | 282 | -- | 9,500 | 8,018 | 10,500 | 10,574 | 208 | 1 | 60 | 0.3 | 15 | 24x24x12 | 36 | DAIKIN FXZA09AAVJU | OHRU-7 |
| CC-2-49 | COLLABORATION CORR 2D | 282 | -- | 9,500 | 8,018 | 10,500 | 10,574 | 208 | 1 | 60 | 0.3 | 15 | 24x24x12 | 36 | DAIKIN FXZA09AAVJU | OHRU-7 |
| CC-2-50 | COLLABORATION CORR 2D | 335 | -- | 15,000 | 12,795 | 17,000 | 17,057 | 208 | 1 | 60 | 0.4 | 15 | 24x24x12 | 37 | DAIKIN FXZA15AAVJU | OHRU-7 |
| CC-2-51 | TEACHER PREP 214 | 618 | -- | 23,000 | 19,397 | 27,000 | 26,999 | 208 | 1 | 60 | 0.5 | 15 | 34x34x12 | 51 | DAIKIN FXFA24AAVJU | OHRU-7 |
| CC-2-52 | SPECIAL EDUCATION 215 | 882 | -- | 30,000 | 25,249 | 34,000 | 33,999 | 208 | 1 | 60 | 1.0 | 15 | 34x34x12 | 58 | DAIKIN FXFA30AAVJU | OHRU-7 |
| CC-2-53 | SPECIAL EDUCATION 215 | 882 | -- | 30,000 | 25,249 | 34,000 | 33,999 | 208 | 1 | 60 | 1.0 | 15 | 34x34x12 | 58 | DAIKIN FXFA30AAVJU | OHRU-7 |
| CC-2-54 | ART 205 | 264 | -- | 7,500 | 6,483 | 8,500 | 8,527 | 208 | 1 | 60 | 0.3 | 15 | 24x24x12 | 36 | DAIKIN FXZA07AAVJU | OHRU-3 |
| CC-2-55 | ART 232 | 247 | -- | 5,800 | 4,947 | 6,500 | 6,483 | 208 | 1 | 60 | 0.3 | 15 | 24x24x12 | 36 | DAIKIN FXZA05AAVJU | OHRU-3 |
| CC-2-56 | ELEC/IDF 331 | 498 | -- | 17,400 | -- | 21,600 | 12,300 | 208 | 1 | 60 | (0.28) | -- | 24x24x12 | 39 | DAIKIN FFG18W2VJU9 | HP-3-56 |
| CC-2-57 | ELEC/IDF 319 | 498 | -- | 17,400 | -- | 21,600 | 12,300 | 208 | 1 | 60 | (0.28) | -- | 24x24x12 | 39 | DAIKIN FFG18W2VJU9 | HP-3-57 |

1. PROVIDE UNIT WITH WALL MOUNTED HARD-WIRED THERMOSTAT.
2. PROVIDE ALL UNITS COMPLETE WITH INTEGRAL CONDENSATE PUMP.
3. PROVIDE ALL UNITS WITH OA VALVE WITH VENTILATION KIT.
4. PROVIDE ALL UNITS WITH NON-FUSED, UNIT MOUNTED DISCONNECT SWITCH BY THE EC.

| SPLIT SYSTEM CEILING CASSETTE UNIT SCHEDULE | | | | | | | | | | | | | | | | |
|---|-----------------------|-------------------------------|----------------|----------------------|--|----------------------|----------------------------------|------------|-----------------|-------|-----------|-----|-------------------------|-----------------------|--|-----------|
| UNIT TAG | AREA SERVED | TOTAL SUPPLY CFM MEDIUM SPEED | MINIMUM OA CFM | TOTAL COOLING BTU/HR | CORRECTED TOTAL COOLING BTU/HR AT 72°F DB/ 62.5°F WB | TOTAL HEATING BTU/HR | CORRECTED HEATING BTU/HR (70° F) | ELECTRICAL | CHARACTERISTICS | | | | MAXIMUM DIMENSIONS, IN. | OPERATING WEIGHT LBS. | BASIS OF DESIGN MANUFACTURER & MODEL NO. | SERVED BY |
| | | | | | | | | VOLTS | PHASE | CYCLE | MCA (FLA) | MOP | | | | |
| CC-3-1 | CONFERENCE RM 335 | 918 | — | 36,000 | 30,299 | 40,000 | 39,989 | 208 | 1 | 60 | 1.6 | 15 | 34x34x12 | 58 | DAIKIN FXFQ36AAVJU | OHRU-2 |
| CC-3-2 | A-WING 3RD FLR-3A | 441 | — | 18,000 | 15,183 | 20,000 | 20,121 | 208 | 1 | 60 | 0.6 | 15 | 24x24x12 | 42 | DAIKIN FXFA18AAVJU | OHRU-2 |
| CC-3-3 | MEETING RM 334 | 618 | — | 23,000 | 19,397 | 27,000 | 26,999 | 208 | 1 | 60 | 0.5 | 15 | 34x34x12 | 51 | DAIKIN FXFA24AAVJU | OHRU-2 |
| CC-3-4 | MEETING RM 334 | 618 | — | 23,000 | 19,397 | 27,000 | 26,999 | 208 | 1 | 60 | 0.5 | 15 | 34x34x12 | 51 | DAIKIN FXFA24AAVJU | OHRU-2 |
| CC-3-5 | MEETING RM 334 | 618 | — | 23,000 | 19,397 | 27,000 | 26,999 | 208 | 1 | 60 | 0.5 | 15 | 34x34x12 | 51 | DAIKIN FXFA24AAVJU | OHRU-2 |
| CC-3-6 | MEETING RM 334 | 618 | — | 23,000 | 19,397 | 27,000 | 26,999 | 208 | 1 | 60 | 0.5 | 15 | 34x34x12 | 51 | DAIKIN FXFA24AAVJU | OHRU-2 |
| CC-3-7 | MEETING RM 334 | 618 | — | 23,000 | 19,397 | 27,000 | 26,999 | 208 | 1 | 60 | 0.5 | 15 | 34x34x12 | 51 | DAIKIN FXFA24AAVJU | OHRU-2 |
| CC-3-8 | MOTHERS RM 334A | 264 | 30 | 7,500 | 6,483 | 8,500 | 8,527 | 208 | 1 | 60 | 0.3 | 15 | 24x24x12 | 36 | DAIKIN FXFQ27AAVJU | OHRU-2 |
| CC-3-9 | A-WING 3RD FLR-3A | 282 | — | 9,500 | 8,018 | 10,500 | 10,574 | 208 | 1 | 60 | 0.3 | 15 | 24x24x12 | 36 | DAIKIN FXFQ29AAVJU | OHRU-2 |
| CC-3-10 | GIRLS 3RD JR 330 | 264 | — | 7,500 | 6,483 | 8,500 | 8,527 | 208 | 1 | 60 | 0.3 | 15 | 24x24x12 | 36 | DAIKIN FXFQ27AAVJU | OHRU-4 |
| CC-3-11 | BOY'S BR 329 | 264 | — | 7,500 | 6,483 | 8,500 | 8,527 | 208 | 1 | 60 | 0.3 | 15 | 24x24x12 | 36 | DAIKIN FXFQ27AAVJU | OHRU-4 |
| CC-3-12 | B-WING 3RD FLR-3B | 282 | — | 9,500 | 8,018 | 10,500 | 10,574 | 208 | 1 | 60 | 0.3 | 15 | 24x24x12 | 36 | DAIKIN FXFQ29AAVJU | OHRU-4 |
| CC-3-13 | TEACHER PREP 326 | 618 | — | 23,000 | 19,397 | 27,000 | 26,999 | 208 | 1 | 60 | 0.5 | 15 | 34x34x12 | 51 | DAIKIN FXFA24AAVJU | OHRU-4 |
| CC-3-14 | TEACHER PREP 326 | 618 | — | 23,000 | 19,397 | 27,000 | 26,999 | 208 | 1 | 60 | 0.5 | 15 | 34x34x12 | 51 | DAIKIN FXFA24AAVJU | OHRU-4 |
| CC-3-15 | SPECIAL EDUCATION 325 | 618 | — | 23,000 | 19,397 | 27,000 | 26,999 | 208 | 1 | 60 | 0.5 | 15 | 34x34x12 | 51 | DAIKIN FXFA24AAVJU | OHRU-4 |
| CC-3-16 | SPECIAL EDUCATION 325 | 618 | — | 23,000 | 19,397 | 27,000 | 26,999 | 208 | 1 | 60 | 0.5 | 15 | 34x34x12 | 51 | DAIKIN FXFA24AAVJU | OHRU-4 |
| CC-3-17 | SPECIAL EDUCATION 324 | 477 | — | 18,000 | 15,149 | 20,000 | 19,999 | 208 | 1 | 60 | 0.4 | 15 | 34x34x12 | 42 | DAIKIN FXFQ18AAVJU | OHRU-4 |
| CC-3-18 | SPECIAL EDUCATION 324 | 477 | — | 18,000 | 15,149 | 20,000 | 19,999 | 208 | 1 | 60 | 0.4 | 15 | 34x34x12 | 42 | DAIKIN FXFQ18AAVJU | OHRU-4 |
| CC-3-19 | B-WING 3RD FLR-3B | 282 | — | 9,500 | 8,018 | 10,500 | 10,574 | 208 | 1 | 60 | 0.3 | 15 | 24x24x12 | 36 | DAIKIN FXFQ29AAVJU | OHRU-4 |
| CC-3-20 | B-WING 3RD FLR-3B | 282 | — | 9,500 | 8,018 | 10,500 | 10,574 | 208 | 1 | 60 | 0.3 | 15 | 24x24x12 | 36 | DAIKIN FXFQ29AAVJU | OHRU-4 |
| CC-3-21 | B-WING 3RD FLR-3B | 300 | — | 12,000 | 10,236 | 13,500 | 13,642 | 208 | 1 | 60 | 0.4 | 15 | 24x24x12 | 37 | DAIKIN FXFA12AAVJU | OHRU-4 |
| CC-3-22 | SGR 301 | 459 | — | 14,400 | 12,147 | 17,000 | 16,992 | 208 | 1 | 60 | 0.4 | 15 | 34x34x12 | 42 | DAIKIN FXFA15AAVJU | OHRU-4 |
| CC-3-23 | SEC 302 | 459 | — | 14,400 | 12,147 | 17,000 | 16,992 | 208 | 1 | 60 | 0.4 | 15 | 34x34x12 | 42 | DAIKIN FXFA15AAVJU | OHRU-4 |
| CC-3-24 | CLASSROOM 303 | 459 | — | 14,400 | 12,147 | 17,000 | 16,992 | 208 | 1 | 60 | 0.4 | 15 | 34x34x12 | 42 | DAIKIN FXFA15AAVJU | OHRU-4 |
| CC-3-25 | CLASSROOM 303 | 459 | — | 14,400 | 12,147 | 17,000 | 16,992 | 208 | 1 | 60 | 0.4 | 15 | 34x34x12 | 42 | DAIKIN FXFA15AAVJU | OHRU-4 |
| CC-3-26 | C-WING 3RD FLR-3C | 300 | — | 12,000 | 10,236 | 13,500 | 13,642 | 208 | 1 | 60 | 0.4 | 15 | 24x24x12 | 37 | DAIKIN FXFA12AAVJU | OHRU-4 |
| CC-3-27 | CLASSROOM 304 | 459 | — | 14,400 | 12,147 | 17,000 | 16,992 | 208 | 1 | 60 | 0.4 | 15 | 34x34x12 | 42 | DAIKIN FXFA15AAVJU | OHRU-6 |
| CC-3-28 | CLASSROOM 304 | 459 | — | 14,400 | 12,147 | 17,000 | 16,992 | 208 | 1 | 60 | 0.4 | 15 | 34x34x12 | 42 | DAIKIN FXFA15AAVJU | OHRU-6 |
| CC-3-29 | CALMING 305 | 264 | — | 7,500 | 6,483 | 8,500 | 8,527 | 208 | 1 | 60 | 0.3 | 15 | 24x24x12 | 36 | DAIKIN FXFQ27AAVJU | OHRU-6 |
| CC-3-30 | SGR 323 | 406 | — | 12,000 | 10,100 | 13,500 | 13,512 | 208 | 1 | 60 | 0.3 | 15 | 34x34x12 | 42 | DAIKIN FXFA12AAVJU | OHRU-6 |
| CC-3-31 | CLASSROOM 322 | 882 | — | 30,000 | 25,249 | 34,000 | 33,999 | 208 | 1 | 60 | 1.0 | 15 | 34x34x12 | 58 | DAIKIN FXFA30AAVJU | OHRU-6 |
| CC-3-32 | CLASSROOM 322 | 882 | — | 30,000 | 25,249 | 34,000 | 33,999 | 208 | 1 | 60 | 1.0 | 15 | 34x34x12 | 58 | DAIKIN FXFA30AAVJU | OHRU-6 |
| CC-3-33 | CLASSROOM 321 | 882 | — | 30,000 | 25,249 | 34,000 | 33,999 | 208 | 1 | 60 | 1.0 | 15 | 34x34x12 | 58 | DAIKIN FXFA30AAVJU | OHRU-6 |
| CC-3-34 | CLASSROOM 321 | 882 | — | 30,000 | 25,249 | 34,000 | 33,999 | 208 | 1 | 60 | 1.0 | 15 | 34x34x12 | 58 | DAIKIN FXFA30AAVJU | OHRU-6 |
| CC-3-35 | C-WING 3RD FLR-3C | 335 | — | 15,000 | 12,795 | 17,000 | 17,057 | 208 | 1 | 60 | 0.4 | 15 | 24x24x12 | 37 | DAIKIN FXFA12AAVJU | OHRU-6 |
| CC-3-36 | CLASSROOM 308 | 459 | — | 14,400 | 12,147 | 17,000 | 16,992 | 208 | 1 | 60 | 0.4 | 15 | 34x34x12 | 42 | DAIKIN FXFA15AAVJU | OHRU-6 |
| CC-3-37 | CLASSROOM 308 | 459 | — | 14,400 | 12,147 | 17,000 | 16,992 | 208 | 1 | 60 | 0.4 | 15 | 34x34x12 | 42 | DAIKIN FXFA15AAVJU | OHRU-6 |
| CC-3-38 | SENSORY 318 | 300 | — | 12,000 | 10,236 | 13,500 | 13,642 | 208 | 1 | 60 | 0.4 | 15 | 24x24x12 | 37 | DAIKIN FXFA12AAVJU | OHRU-8 |
| CC-3-39 | COLLABORATION CORR 30 | 264 | — | 7,500 | 6,483 | 8,500 | 8,527 | 208 | 1 | 60 | 0.3 | 15 | 24x24x12 | 36 | DAIKIN FXFQ27AAVJU | OHRU-8 |
| CC-3-40 | COLLABORATION CORR 30 | 264 | — | 7,500 | 6,483 | 8,500 | 8,527 | 208 | 1 | 60 | 0.3 | 15 | 24x24x12 | 36 | DAIKIN FXFQ27AAVJU | OHRU-8 |
| CC-3-41 | CLASSROOM 311 | 618 | — | 23,000 | 19,397 | 27,000 | 26,999 | 208 | 1 | 60 | 0.5 | 15 | 34x34x12 | 51 | DAIKIN FXFA24AAVJU | OHRU-8 |
| CC-3-42 | CLASSROOM 311 | 618 | — | 23,000 | 19,397 | 27,000 | 26,999 | 208 | 1 | 60 | 0.5 | 15 | 34x34x12 | 51 | DAIKIN FXFA24AAVJU | OHRU-8 |
| CC-3-43 | CLASSROOM 312 | 477 | — | 18,000 | 15,149 | 20,000 | 19,999 | 208 | 1 | 60 | 0.4 | 15 | 34x34x12 | 42 | DAIKIN FXFQ18AAVJU | OHRU-8 |
| CC-3-44 | CLASSROOM 312 | 477 | — | 18,000 | 15,149 | 20,000 | 19,999 | 208 | 1 | 60 | 0.4 | 15 | 34x34x12 | 42 | DAIKIN FXFQ18AAVJU | OHRU-8 |
| CC-3-45 | CLASSROOM 313 | 618 | — | 23,000 | 19,397 | 27,000 | 26,999 | 208 | 1 | 60 | 0.5 | 15 | 34x34x12 | 51 | DAIKIN FXFA24AAVJU | OHRU-8 |
| CC-3-46 | CLASSROOM 313 | 618 | — | 23,000 | 19,397 | 27,000 | 26,999 | 208 | 1 | 60 | 0.5 | 15 | 34x34x12 | 51 | DAIKIN FXFA24AAVJU | OHRU-8 |
| CC-3-47 | COLLABORATION CORR 30 | 264 | — | 7,500 | 6,483 | 8,500 | 8,527 | 208 | 1 | 60 | 0.3 | 15 | 24x24x12 | 36 | DAIKIN FXFQ27AAVJU | OHRU-8 |
| CC-3-48 | COLLABORATION CORR 30 | 300 | — | 12,000 | 10,236 | 13,500 | 13,642 | 208 | 1 | 60 | 0.4 | 15 | 24x24x12 | 37 | DAIKIN FXFA12AAVJU | OHRU-8 |
| CC-3-49 | SGR 314 | 882 | — | 30,000 | 25,249 | 34,000 | 33,999 | 208 | 1 | 60 | 1.0 | 15 | 34x34x12 | 58 | DAIKIN FXFA30AAVJU | OHRU-8 |
| CC-3-50 | CLASSROOM 315 | 882 | — | 30,000 | 25,249 | 34,000 | 33,999 | 208 | 1 | 60 | 1.0 | 15 | 34x34x12 | 58 | DAIKIN FXFA30AAVJU | OHRU-8 |
| CC-3-51 | CLASSROOM 315 | 882 | — | 30,000 | 25,249 | 34,000 | 33,999 | 208 | 1 | 60 | 1.0 | 15 | 34x34x12 | 58 | DAIKIN FXFA30AAVJU | OHRU-8 |
| CC-3-52 | CLASSROOM 320 | 618 | — | 23,000 | 19,397 | 27,000 | 26,999 | 208 | 1 | 60 | 0.5 | 15 | 34x34x12 | 51 | DAIKIN FXFA24AAVJU | OHRU-8 |
| CC-3-53 | CLASSROOM 320 | 882 | — | 30,000 | 25,249 | 34,000 | 33,999 | 208 | 1 | 60 | 1.0 | 15 | 34x34x12 | 58 | DAIKIN FXFA30AAVJU | OHRU-8 |
| CC-3-54 | ELEC/IDF 331 | 498 | — | 17,400 | — | 21,600 | 12,300 | 208 | 1 | 60 | (0.28) | — | 24x24x12 | 39 | DAIKIN FFG18W2VJ2J | HP-3-54 |
| CC-3-55 | ELEC/IDF 331 | 498 | — | 17,400 | — | 21,600 | 12,300 | 208 | 1 | 60 | (0.28) | — | 24x24x12 | 39 | DAIKIN FFG18W2VJ2J | HP-3-55 |

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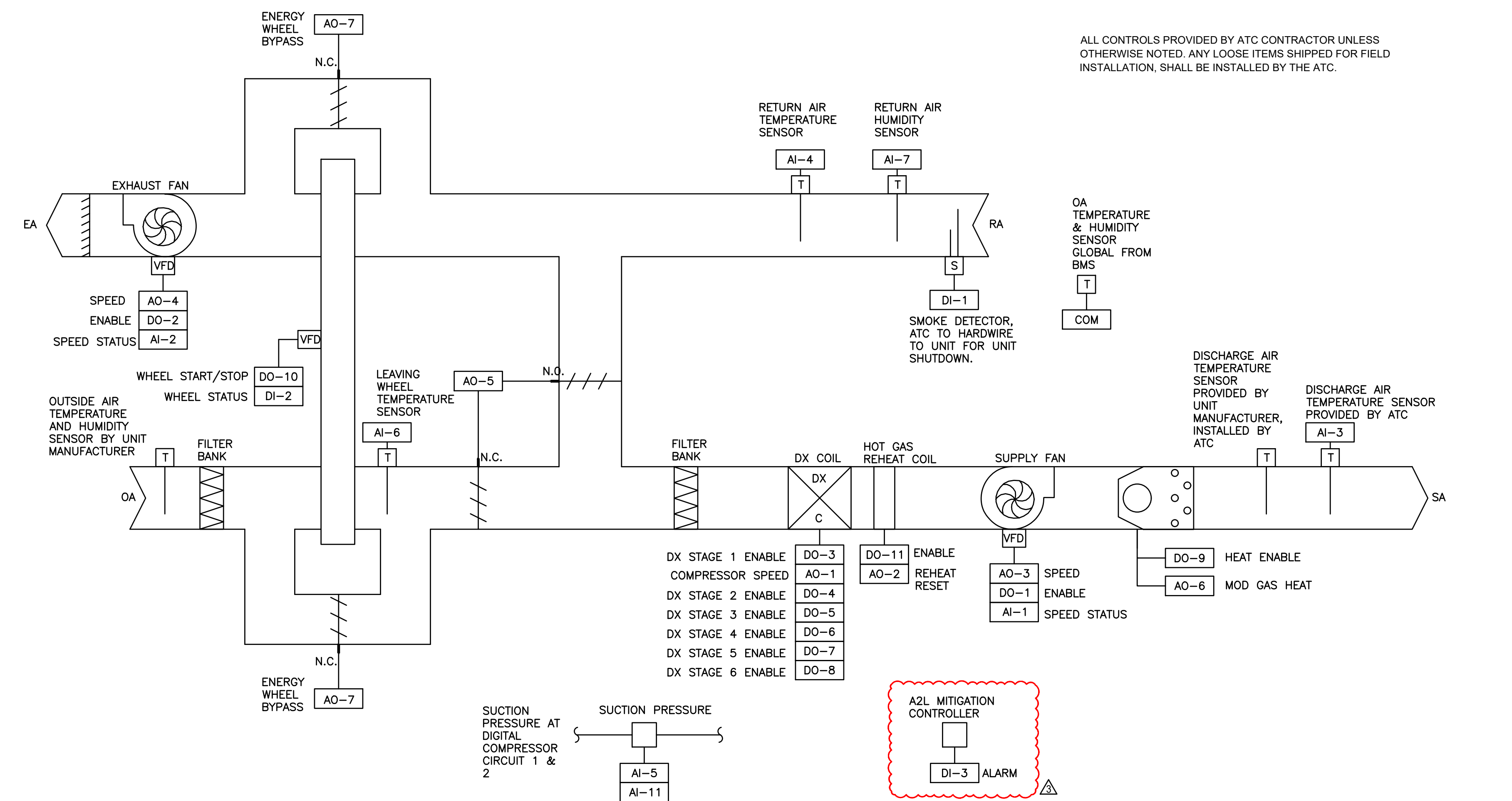
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**NOT FOR
CONSTRUCTION**



DOAS-1 - 4 UNIT SEQUENCE OF OPERATION:

NEW CONTROL REQUIREMENTS SHALL INCLUDE THE PLACEMENT OF A NEW UNIT CONTROLLER WITH I/O EXPANSION INSIDE THE UNIT CONTROLLER CABINET FOR CONTROL OF UNIT VIA MANUFACTURER PROVIDED TERMINAL STRIP. THIS UNIT SHALL BE CONNECTED TO THE BUILDING WIDE COMMUNICATION CABLE (BUS) AND SHALL INTEGRATE ALL POINTS BACK TO SUPERVISORY CONTROLLER. MOUNT NEW CONTROLLER IN UNIT ENCLOSURE AND PROVIDE 120/24V TRANSFORMER FOR POWER. THE ATC CONTRACTOR SHALL INSTALL THE DISCHARGE AIR TEMPERATURE SENSOR FURNISHED BY THE UNIT MANUFACTURER. PROVIDE COMPLETE INDIVIDUAL UNIT SCHEDULING FUNCTION THROUGH BUILDING SUPERVISORY CONTROLLER. THE OPERATOR WILL BE ABLE TO ADJUST THE UNIT START/STOP USING THE OPERATOR'S WORKSTATION.

- PROVIDE COMPLETE INDIVIDUAL UNIT SCHEDULING FUNCTION THROUGH UNIT CONTROLLER. THE OPERATOR WILL BE ABLE TO ADJUST THE UNIT START/STOP USING THE CONTROLLER.
- OCCUPIED MODE: THE CONTROLLER SHALL INDEX THE SUPPLY FAN, EXHAUST FAN AND ENERGY WHEEL ON TO RUN CONTINUOUSLY WHILE IN OCCUPIED MODE. UNIT VFDs SHALL BE FOR BALANCING PURPOSES ONLY. THE CONTROLLER WILL MONITOR THE STATUS OF THE FAN AND GENERATE AN ALARM IF THE FAN FAILS TO A START/STOP COMMAND.
- UNOCCUPIED MODE: WHEN THE UNIT IS IN UNOCCUPIED MODE OR THE UNIT IS SHUT DOWN BY SYSTEM SAFETY, THE UNIT WILL BE SET AS FOLLOWS: SUPPLY & EXHAUST FAN WILL BE OFF, OUTDOOR AIR DAMPER CLOSED, RETURN AIR DAMPER OPEN, GAS HEAT OFF & DX COOLING OFF.
- ECONOMIZER OPERATION
 - ENABLED WHEN OUTDOOR AIR (OA) DEWPOINT TEMPERATURE FALLS BELOW THE ECONOMIZER ENABLE SETPOINT BY 1'.
 - ECONOMIZER OPERATION IS DISABLED WHEN THE OA TEMPERATURE RISES 1' ABOVE THE ECONOMIZER ENABLE SETPOINT.
 - ECONOMIZER ACTS AS 1ST STAGE OF COOLING AND CONTROLS TO THE ACTIVE SUPPLY AIR COOLING SETPOINT. DURING ECONOMIZER MODE THE ENERGY WHEEL BYPASS DAMPERS SHALL OPEN.
 - ECONOMIZER DAMPER IS CLOSED DURING UNOCCUPIED MODE.
- OUTSIDE AIR DAMPER: OCCUPIED PERIODS: OPEN TO MAXIMUM POSITION. RA DAMPER SHALL MODULATE CLOSED.

F. DX COOLING: MODULATION OF COOLING SHALL BE CONFIGURED SUBJECT TO USER ADJUSTABLE MINIMUM RUN TIMES, MINIMUM OFF TIMES, MAXIMUM RUN TIMES AND MODULATING DOWN DELAYS. COOLING IS ENABLED WHEN THE TEMPERATURE AT THE MODE ENABLE DISCHARGE AIR SENSOR RISES ONE DEGREE DEADBAND ABOVE THE COOLING SETPOINT. COOLING IS DISABLED WHEN THE MODE ENABLE TEMPERATURE FALLS ONE DEGREE DEAD BAND BELOW THE COOLING SETPOINT. SUPPLY AIR TEMPERATURE RESET: THE SUPPLY TEMPERATURE SETPOINT IS CALCULATED BASED ON THE ACTIVE SETPOINT AND THE CURRENT OUTSIDE AIR TEMPERATURE. THE CALCULATED SETPOINT IS SCALED BETWEEN THE SUPPLY TEMPERATURE MINIMUM AND MAXIMUM SETPOINTS DETERMINED BY THE CURRENT MODE OF OPERATION.

- WHEN THE OUTSIDE AIR TEMPERATURE IS LESS THAN 60°F (ADJ.), THE MINIMUM SUPPLY TEMPERATURE FOR THE DOAS UNIT SHALL BE 70°F (ADJ.) AND THE MAXIMUM SUPPLY TEMPERATURE FOR THE DOAS UNIT SHALL BE 75°F (ADJ.).
- WHEN THE OUTSIDE AIR TEMPERATURE IS GREATER THAN 65°F (ADJ.), THE MINIMUM SUPPLY TEMPERATURE FOR THE DOAS UNIT SHALL BE 60°F (ADJ.) AND THE MAXIMUM SUPPLY TEMPERATURE FOR THE DOAS UNIT SHALL BE 70°F (ADJ.).

- G. DX COOLING STAGING:
- EACH STAGE MUST MEET ITS MINIMUM OFF TIME (ADJ.) BEFORE IT IS ALLOWED TO ENERGIZE AND SUCCESSIVE STAGES CAN ENERGIZE IF THE SAT RISES ABOVE THE ACTIVE SUPPLY AIR COOLING SETPOINT FOR THE COOLING STAGE UP DELAY PERIOD (ADJ.).
 - FOR COMPRESSORS TO STAGE DOWN MINIMUM RUN TIMES (ADJ.) MUST BE SATISFIED, AND THE SAT NEEDS TO BE BELOW THE ACTIVE SUPPLY AIR COOLING SETPOINT MINUS THE COOLING STAGE CONTROL FOR A PERIOD OF TIME EQUAL TO THE STAGE DOWN DELAY.

- MECHANICAL COOLING IS DISABLED IF THE OUTDOOR AIR TEMPERATURE (OAT) FALLS 1' BELOW THE COOLING LOCKOUT SETPOINT AND WILL REMAIN DISABLED UNTIL THE OAT RISES 1' ABOVE THE COOLING LOCKOUT SETPOINT. IF THE OAT DISABLES MECHANICAL COOLING WHILE IT IS CURRENTLY OPERATING, MECHANICAL COOLING WILL STAGE OFF AS MINIMUM RUN TIMES AND STAGE DOWN DELAYS ARE SATISFIED.
- IF ECONOMICIZATION IS ENABLED IT WILL FUNCTION AS THE FIRST STAGE OF COOLING.
- DEHUMIDIFICATION: WHEN THE RETURN HUMIDITY SENSOR RISES ABOVE 55% RH (ADJ.), BAS SHALL ENABLE HOT GAS RE-HEAT AND MODULATE DIGITAL COMPRESSOR TO MAINTAIN THE DISCHARGE AIR TEMPERATURE SETTING (ADJ.) LOGIC MUST BE SET TO MAKE DEHUMIDIFICATION THE PRIORITY.
- ONCE IN DEHUMIDIFICATION, THE UNIT WILL MAINTAIN THE EVAPORATOR COIL SUCTION TEMPERATURE AT THE COIL SUCTION TEMPERATURE SETPOINT BY MODULATING THE DIGITAL COMPRESSOR (1.5 -5.0 VOC OPERATION).
- REHEAT IS ALWAYS CONTROLLED TO THE ACTIVE SUPPLY AIR TEMPERATURE SETPOINT.

H. COIL SUCTION TEMPERATURE SETPOINT RESET: DURING DEHUMIDIFICATION THE SYSTEM WILL AUTOMATICALLY RESET THE COIL SUCTION TEMPERATURE SETPOINT WITHIN A ± 5 DEG RANGE BASED ON THE RETURN AIR HUMIDITY SENSOR CONDITION CHANGING ± 5% FROM THE HUMIDITY SETPOINT.

I. MORNING WARM-UP: THE DOAS UNIT WILL REMAIN OFF DURING MORNING WARM-UP MODE AND THE ZONE UNITS WILL PERFORM ALL MORNING WARM-UP.

J. HEATING DEMAND: ON A FALL IN DISCHARGE AIR TEMPERATURE BELOW THE HEATING SETPOINT (ADJ.), THE GAS VALVE SHALL MODULATE TO MAINTAIN THE DISCHARGE TARGET OF 70° F (ADJ.). DURING HEATING MODE, COOLING SHALL BE DISABLED. HEATING MODE IS AVAILABLE WHEN THE OAT IS BELOW THE OAT HEATING UPPER LIMIT OF 65°F (ADJ.) SUPPLY AIR TEMPERATURE RESET: THE SUPPLY TEMPERATURE SETPOINT IS CALCULATED BASED ON THE ACTIVE SETPOINT AND THE CURRENT OUTSIDE AIR TEMPERATURE. THE CALCULATED SETPOINT IS SCALED BETWEEN THE SUPPLY TEMPERATURE MINIMUM AND MAXIMUM SETPOINTS DETERMINED BY THE CURRENT MODE OF OPERATION.

- WHEN THE OUTSIDE AIR TEMPERATURE IS LESS THAN 65°F (ADJ.), THE MINIMUM SUPPLY TEMPERATURE FOR THE DOAS UNIT SHALL BE 70°F (ADJ.) AND THE MAXIMUM SUPPLY TEMPERATURE FOR THE DOAS UNIT SHALL BE 75°F (ADJ.).

K. LOW TEMPERATURE PROTECTION: AN SUPPLY AIR TEMPERATURE SENSOR DIRECTLY AFTER THE HEATING COIL DE-ENERGIZES THE SUPPLY & EXHAUST FAN WHEN TEMPERATURES BELOW 40 DEGREES F ARE SENSED. ALL DAMPERS (OA DAMPER SHALL CLOSED/RA DAMPER SHALL OPEN). AFTER THE TEMPERATURE RISES 5 DEGREES ABOVE THE LOW TEMPERATURE SETTING, THE UNIT WILL RESET AND THE UNIT WILL RESUME ITS NORMAL CONTROL SEQUENCE.

L. ACTIVE HEAD PRESSURE CONTROL: TO MAINTAIN A CONSISTENT CONDENSING TEMPERATURE IN COOLING AND DEHUMIDIFICATION MODE, THE CONTROLLER SHALL ENABLE AND MODULATE ALL CONDENSING FANS WITH EC MOTORS AT THE SAME SPEED TO MAINTAIN A CONDENSING TEMPERATURE OF 110°F.

M. DUCT SMOKE DETECTOR: DUCT MOUNTED SMOKE DETECTORS SHALL BE INTEGRATED TO THE MICROPROCESSOR CONTROLLER AS FOLLOWS: THE ATC SHALL WIRE THE DUAL POLE DETECTOR TO THE UNIT CONTROLLER FOR SYSTEM SHUTDOWN AND ALARM.

N. VRF REFRIGERANT LEAK DETECTION: WHENEVER A LEAK DETECTION SIGNAL IS RECEIVED FROM ASSOCIATED VRF SYSTEM SERVING SAME ZONE, THE DOAS SHALL BE ENABLED IN OCCUPIED MODE.

O. THE A2L MITIGATION CONTROLLER SHALL BE FACTORY PROVIDED BY THE UNIT MANUFACTURER. ALL FUNCTIONS OF THE A2L MITIGATION SHALL BE PROVIDED BY THE UNIT MANUFACTURER. WHEN ANY OF THE UNIT'S A2L SENSORS DETECT AN A2L REFRIGERANT LEAK OR CONTROLLER DOES NOT DETECT A SENSOR CONNECTION, THE CONTROLLER SHALL ENABLE THE SUPPLY FAN, DISABLE THE COMPRESSORS AND ENABLE THE A2L ALARM. THE ATC CONTRACTOR SHALL RECEIVE THE A2L ALARM AND DISPLAY ON OPERATOR WORKSTATION.

1. POINT PROVIDED ON RTU TERMINAL STRIP

1. POINT PROVIDED ON RTU TERMINAL STRIP

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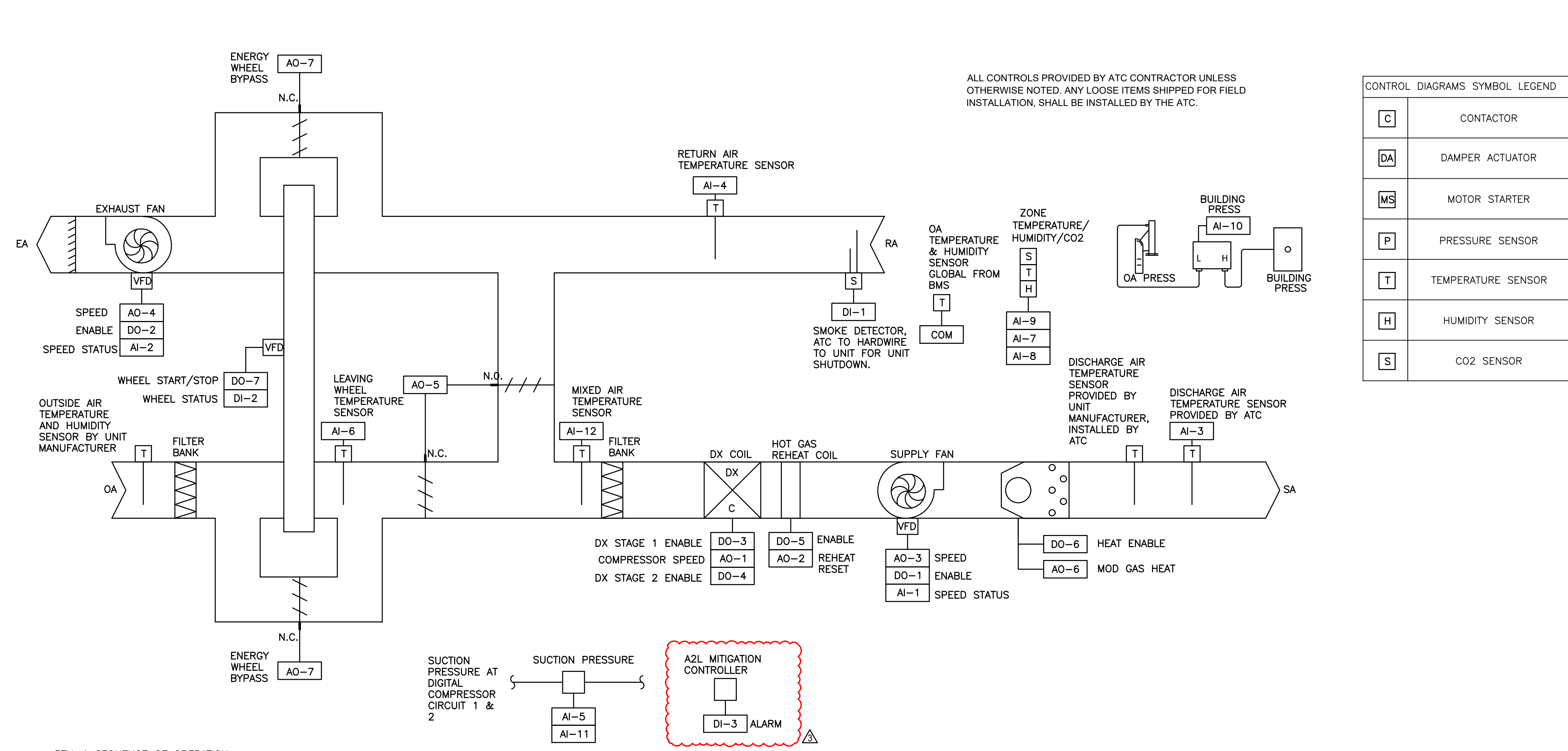
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DOAS-1 - DOAS-4 CONTROLS
M401 NO SCALE



RTU-1 SEQUENCE OF OPERATION:

NEW CONTROL REQUIREMENTS SHALL INCLUDE THE PLACEMENT OF A NEW UNIT CONTROLLER WITH I/O EXPANSION INSIDE THE UNIT CONTROLLER CABINET FOR CONTROL OF UNIT VIA MANUFACTURER PROVIDED TERMINAL STRIP. THIS UNIT SHALL BE CONNECTED TO THE BUILDING WIDE COMMUNICATION CABLE (BUS) AND SHALL INTEGRATE ALL POINTS BACK TO SUPERVISORY CONTROLLER. MOUNT NEW CONTROLLER IN UNIT ENCLOSURE AND PROVIDE 120/24V TRANSFORMER FOR POWER. PROVIDE DUCT MOUNTED AND SPACE MOUNTED PRESSURE SENSORS FOR FULL UNIT CONTROL. THE ATC CONTRACTOR SHALL INSTALL THE DISCHARGE AIR TEMPERATURE SENSOR FURNISHED BY THE UNIT MANUFACTURER. PROVIDE COMPLETE INDIVIDUAL UNIT SCHEDULING FUNCTION THROUGH BUILDING SUPERVISORY CONTROLLER. THE BAS WILL EARLY START THE UNIT TO ACHIEVE SPACE TEMPERATURE SETPOINT FOR OCCUPANCY. THE OPERATOR WILL BE ABLE TO ADJUST THE UNIT START/STOP USING THE OPERATOR'S WORKSTATION. SPACE MOUNTED TEMPERATURE SENSOR SHALL HAVE PUSH BUTTON FOR OCCUPANCY OVERRIDE WITHOUT TEMPERATURE OVERRIDE OR LCD DISPLAY. THE SENSOR SHALL BE ENCLOSED IN A CLEAR PLASTIC ENCLOSURE. THE ATC SHALL PROVIDE ALL ASSOCIATED PROGRAMMING AS REQUIRED FOR SINGLE-ZONE VAV UNIT OPERATION.

- MORNING WARM-UP AND COOL-DOWN: ON OCCUPIED DAYS THE SYSTEM WILL INITIATE MORNING WARM-UP AND COOL-DOWN CYCLE ½ HOUR BEFORE SCHEDULED OCCUPANCY. THE PROCESS WILL INITIATE SUPPLY FAN WITH OUTSIDE AIR DAMPER CLOSED AND RETURN AIR DAMPER OPEN.
- OCCUPIED MODE: THE CONTROLLER SHALL INDEX THE SUPPLY FAN, EXHAUST FAN AND ENERGY WHEEL ON TO RUN CONTINUOUSLY WHILE IN OCCUPIED MODE. PROVIDE WHEEL ROTATION SENSOR. THE CONTROLLER WILL MONITOR THE STATUS OF THE FAN AND GENERATE AN ALARM IF THE FAN FAILS TO A START/STOP COMMAND.
- BUILDING PRESSURE CONTROL: WHENEVER THE BUILDING PRESSURE RISES ABOVE THE BUILDING PRESSURE SETPOINT BY THE DEADBAND AMOUNT, THE EXHAUST FAN RELAY WILL ENERGIZE AND THE MODULATING SIGNAL WILL ACTIVATE TO CONTROL TO THE BUILDING PRESSURE SETPOINT. IF THE BUILDING PRESSURE FALLS BELOW THE BUILDING PRESSURE SETPOINT BY THE DEADBAND AMOUNT, THE MODULATING SIGNAL WILL MODULATE TOWARDS 0% AS IT ATTEMPTS TO MAINTAIN THE BUILDING PRESSURE SETPOINT. THE EXHAUST FAN RELAY SHALL BE ENERGIZED WHENEVER THE MODULATING SIGNAL IS ABOVE 0%. THE EXHAUST FAN SHALL HAVE AN ADJUSTABLE MINIMUM SPEED SETPOINT IN OCCUPIED MODE TO MAINTAIN AIRFLOW.
- UNOCCUPIED MODE: WHEN THE UNIT IS IN UNOCCUPIED MODE OR THE UNIT IS SHUT DOWN BY SYSTEM SAFETY, THE UNIT WILL BE SET AS FOLLOWS: SUPPLY & EXHAUST FAN WILL BE OFF, OUTDOOR AIR DAMPER CLOSED, RETURN AIR DAMPER OPEN, THE UNIT SHALL INDEX ON AS REQUIRED TO MEET UNOCCUPIED HEATING AND COOLING SETPOINTS.
- OUTSIDE AIR DAMPER: OCCUPIED PERIODS: UNIT SHALL HAVE ACTIVATE THE CO2 DEMAND CONTROL VENTILATION CYCLE. THIS CYCLE SHALL MODULATE THE OUTSIDE AIR DAMPER BETWEEN MINIMUM AND MAXIMUM SETPOINTS TO MAINTAIN A MAXIMUM CO2 SETPOINT OF 1800 PPM (ADJ.). AS THE LEVEL OF CO2 INCREASES ABOVE THE MINIMUM CO2 LEVEL SETPOINT OF 500 PPM (ADJ.), THE ECONOMIZER MINIMUM POSITION WILL BEGIN TO BE RESET HIGHER. THE ECONOMIZER MINIMUM POSITION WILL BE PROPORTIONALLY RESET HIGHER AS THE CO2 RISES WITHIN THE RANGE SET BY THE MINIMUM CO2 LEVEL SETPOINT AND THE MAXIMUM CO2 LEVEL SETPOINT. IF THE CO2 LEVEL REACHES THE HIGH CO2 LEVEL SETPOINT, THE ECONOMIZER MINIMUM POSITION WILL BE RESET TO THE MAXIMUM POSITION. THE ECONOMIZER MINIMUM POSITION SETPOINT IS USER-ADJUSTABLE AND DOES NOT KEEP THE ECONOMIZER FROM OPENING FURTHER DURING ECONOMIZER OPERATION.
- ECONOMIZER: PROVIDE INTEGRATED ENTHALPHY BASED ECONOMIZER ON THIS UNIT TO OPERATE BETWEEN AMBIENT TEMPERATURES OF 50 TO 65 DEGREES F (30 TO 50% RH). OPERATE AS FOLLOWS:
 - INPUT DEVICE: DDC SYSTEM ENABLE FUNCTION.
 - INPUT DEVICE: OUTDOOR- AND RETURN-AIR, DUCT-MOUNTED ELECTRONIC TEMPERATURE SENSORS.
 - OUTPUT DEVICE: DDC SYSTEM ANALOG OUTPUT TO MODULATING DAMPER ACTUATOR(S).
- ACTION: PROVIDE OUTDOOR AIR ECONOMIZER (MODULATE OA DAMPER BETWEEN ITS MINIMUM POSITION AND FULL OPEN) WHEN OUTSIDE AIR IS BETWEEN 50 DEGREES F AND 65 DEGREES F WITH AMBIENT HUMIDITY LEVELS BETWEEN 40% AND 50% RELATIVE HUMIDITY. DURING ECONOMIZER CYCLE OPERATION, THE ENERGY RECOVERY WHEEL BYPASS DAMPERS SHALL OPEN AND MECHANICAL COOLING SHALL BE DISABLED TO AID THE ECONOMIZER MODE. THE ECONOMIZER MODE SHALL BE DISABLED IF THE OUTSIDE AIR DAMPER FALLING OUT OF THE ABOVE NOTED RANGES THEN THE ECONOMIZER CYCLE SHALL END AND THE OUTSIDE AIR DAMPER SHALL MOVE BACK TO THE MINIMUM POSITION.
- DX COOLING: ON A RISE IN SPACE TEMPERATURE ABOVE THE COOLING SETPOINT OF 75°F (ADJ.), THE FIRST STAGE OF COOLING SHALL BE ACTIVATED. THE UNIT CONTROLLER SHALL MODULATE THE COMPRESSOR TO MAINTAIN THE UNIT DISCHARGE TARGET TEMPERATURE. THE DISCHARGE TARGET TEMPERATURE SHALL BE RESET BASED ON SPACE TEMPERATURE SETPOINT BEING MAINTAINED BY INCREASING OR DECREASING DISCHARGE TEMPERATURE. MODULATION OF COOLING SHALL BE CONFIGURED SUBJECT TO USER ADJUSTABLE MINIMUM RUN TIMES, MINIMUM OFF TIMES, MODULATING UP AND MODULATING DOWN DELAYS.
 - FIRST STAGE - COOLING DAT RESET: THE UNIT CONTROLLER SHALL FIRST RESET THE DAT FROM MAX 70°F (ADJ.) TO MIN OF 55°F (ADJ.) WHILE SUPPLY AIR FLOW STAYS AT MIN FAN SPEED SETPOINT OF 60% (ADJ.). THE UNIT CONTROLLER SHALL MODULATE THE DIGITAL COMPRESSOR TO MAINTAIN THE DAT SETPOINT.
 - SECOND STAGE - INCREASE AIRFLOW: UPON CONTINUED ZONE TEMPERATURE ABOVE SETPOINT (COOLING PID OUTPUT INCREASING FROM 60-100% (ADJ.)), INCREASE SUPPLY AIRFLOW SETPOINT FROM MIN TO MAX BALANCED VFD SPEED SETPOINT. THE DIGITAL COMPRESSOR CONTINUES TO MODULATE DURING THE ENTIRE COOLING OPERATION.
 - IF ADDITIONAL COOLING IS REQUIRED, FIXED COMPRESSOR STAGES CAN BE STAGED ON WHILE THE DIGITAL COMPRESSOR CONTINUES TO MODULATE. TO STAGE UP THE EXTRA COMPRESSORS, THE SUPPLY AIR TEMPERATURE NEEDS TO BE ABOVE THE ACTIVE SUPPLY AIR SETPOINT AND THE DIGITAL COMPRESSOR NEEDS TO BE AT 100% FOR A PERIOD OF TIME EQUAL TO THE STAGING DOWN DELAY. TO STAGE DOWN THE EXTRA COMPRESSORS, THE SUPPLY AIR TEMPERATURE NEEDS TO BE BELOW THE ACTIVE SUPPLY AIR SETPOINT AND THE DIGITAL COMPRESSOR NEEDS TO BE AT 0% FOR A PERIOD OF TIME EQUAL TO THE STAGING DOWN DELAY.
 - IF THE ECONOMIZER IS ENABLED IT WILL FUNCTION AS THE FIRST STAGE OF COOLING.

H. DEHUMIDIFICATION: WHEN SPACE HUMIDITY SENSOR GOES ABOVE 57% RH (4-2% DEADBAND), THE SUPPLY FAN SHALL MAINTAIN A CONSTANT 50% (ADJ.) SPEED AND AND THE BAS SHALL DISABLE HOT GAS RE-HEAT AND MODULATE DIGITAL COMPRESSOR TO MAINTAIN DISCHARGE AIR TEMPERATURE SETTING (ADJ.) LOGIC MUST BE SET TO MAKE COOLING THE PRIORITY.

- ONCE IN DEHUMIDIFICATION, THE UNIT WILL MAINTAIN THE EVAPORATOR COIL SUCTION TEMPERATURE AT THE COIL SUCTION TEMPERATURE SETPOINT BY MODULATING THE DIGITAL COMPRESSOR (1.5 -5.0 VOC OPERATION).
- IF ADDITIONAL DEHUMIDIFICATION IS REQUIRED, FIXED COMPRESSOR STAGES SHALL BE STAGED ON WHILE THE DIGITAL COMPRESSOR CONTINUES TO MODULATE. TO STAGE UP THE EXTRA COMPRESSORS, THE EVAPORATOR COIL SUCTION TEMPERATURE NEEDS TO BE ABOVE THE EVAPORATOR COIL SUCTION TEMPERATURE SETPOINT AND THE DIGITAL COMPRESSOR NEEDS TO BE AT 100% FOR A PERIOD OF TIME EQUAL TO THE STAGING DOWN DELAY.
- TO STAGE DOWN THE EXTRA COMPRESSORS, THE EVAPORATOR COIL SUCTION TEMPERATURE NEEDS TO BE BELOW THE EVAPORATOR COIL SUCTION TEMPERATURE SETPOINT AND THE DIGITAL COMPRESSOR NEEDS TO BE AT 0% FOR A PERIOD OF TIME EQUAL TO THE STAGING DOWN DELAY.
- REHEAT IS ALWAYS CONTROLLED TO THE ACTIVE SUPPLY AIR TEMPERATURE SETPOINT.
- COIL SUCTION TEMPERATURE SETPOINT RESET: DURING DEHUMIDIFICATION THE SYSTEM WILL AUTOMATICALLY RESET THE COIL SUCTION TEMPERATURE SETPOINT WITHIN A ± 5 DEG RANGE BASED ON THE SPACE OR RETURN AIR HUMIDITY SENSOR CONDITION CHANGING ±5% FROM THE HUMIDITY SETPOINT.

I. HEATING DEMAND: WHEN ZONE TEMPERATURE DROPS BELOW HEATING SETPOINT 70° F (ADJ.), UNIT CONTROL SHALL BE INDEXED TO HEATING MODE AND COOLING SHALL BE DISABLED. THE UNIT SHALL WIRE THE DUAL POLE DETECTOR TO THE UNIT CONTROLLER FOR SYSTEM SHUTDOWN AND ALARM. COIL CONTROL VALVE SHALL MODULATE TO MAINTAIN THE DISCHARGE TARGET.

- FIRST STAGE - HEATING DAT RESET: THE UNIT CONTROLLER SHALL FIRST RESET DAT FROM MIN 70°F (ADJ.) TO MAX OF 85°F (ADJ.) WHILE SUPPLY AIR FLOW STAYS AT MIN FAN SPEED SETPOINT OF 75% (ADJ.). THE UNIT CONTROLLER SHALL MODULATE THE HOT WATER VALVE TO MAINTAIN ITS DAT SETPOINT.
- SECOND STAGE - INCREASE AIRFLOW: UPON CONTINUED ZONE TEMPERATURE BELOW SETPOINT, HEATING PID OUTPUT INCREASING FROM 75-100% (ADJ.), SHALL INCREASE SUPPLY AIRFLOW SETPOINT FROM MIN TO MAX BALANCED VFD SPEED.
- REVERSE SHALL OCCUR AS ZONE TEMPERATURE RISES ABOVE HEATING SETPOINT.

J. SAFETIES:

- LOW TEMPERATURE PROTECTION: AN AUTOMATIC RESET FREEZE/STAT DIRECTLY AFTER THE HEATING COIL DE-ENERGIZES THE SUPPLY & EXHAUST FAN WHEN TEMPERATURES BELOW 38 DEGREES F ARE SENSED. ALL DAMPERS (OA DAMPER SHALL CLOSED/RA DAMPER SHALL OPEN) AND HOT WATER VALVE SHALL OPEN TO FULL COIL FLOW WHEN FREEZE/STAT SENSES 38 DEGREES F. AFTER THE TEMPERATURE RISES 5 DEGREES ABOVE THE FREEZE/STAT SETTING, THE FREEZE/STAT WILL RESET AND THE UNIT VENTILATOR WILL RESUME ITS NORMAL CONTROL SEQUENCE. BELOW OUTDOOR TEMPERATURE OF 40 DEG F (ADJ.), WHETHER OCCUPIED OR UNOCCUPIED, THE CONTROL VALVE SHALL OPEN MINIMUM 25% (ADJUSTABLE) TO ALLOW FLOW THROUGH THE COIL.
- SMOKE DETECTION: THE UNIT SHALL SHUT DOWN AND GENERATE AN ALARM UPON RECEIVING A RETURN AIR SMOKE DETECTOR STATUS.
- THE A2L MITIGATION CONTROLLER SHALL BE FACTORY PROVIDED BY THE UNIT MANUFACTURER. ALL FUNCTIONS OF THE A2L MITIGATION SHALL BE PROVIDED BY THE UNIT MANUFACTURER. WHEN ANY OF THE UNIT'S A2L SENSORS DETECT AN A2L REFRIGERANT LEAK OR CONTROLLER DOES NOT DETECT A SENSOR CONNECTION, THE CONTROLLER SHALL ENABLE THE SUPPLY FAN, DISABLE THE COMPRESSORS AND ENABLE THE A2L ALARM. THE ATC CONTRACTOR SHALL RECEIVE THE A2L ALARM AND DISPLAY ON OPERATOR WORKSTATION.

K. SUPERVISORY GRAPHICAL DISPLAY/INTERFACE REQUIREMENTS:

- FULL GRAPHICAL REPRESENTATION OF UNIT AND ALL ASSOCIATED POINTS:

RTU-1 CONTROLS
M401 NO SCALE

| ROOFTOP UNIT POINTS LIST | | | | | | | | | | | | | | | | | |
|--------------------------|---------------------------|------------------|--------|--------------|----------|-------------|----------|----------|----------|-------|---------|------------|--------|-----------------|--------|----------|-------|
| POINT TAG | POINT DESCRIPTION | INPUTS | | | | | | | | | OUTPUTS | | | | REMARK | | |
| | | SAFETY SHUT DOWN | STATUS | DDC OVERRIDE | PRESSURE | TEMPERATURE | HUMIDITY | SETPOINT | FEEDBACK | SPEED | CO2 | START/STOP | ON/OFF | DAMPER ACTUATOR | | MODULATE | ALARM |
| | | | | | | | | | | | | | | | | | |
| DI-1 | RETURN AIR SMOKE DETECTOR | X | X | | | | | | | | | | | | | X | |
| AI-1 | SUPPLY FAN SPEED STATUS | | | | | | | | | X | | | | | | X | 1 |
| AI-2 | EXHAUST FAN SPEED STATUS | | | | | | | | | X | | | | | | X | 1 |
| DO-1 | SUPPLY FAN ENABLE | | | | | | | | | | | | X | | | | 1 |
| DO-2 | EXHAUST FAN ENABLE | | | | | | | | | | | | X | | | | 1 |
| DO-3 | DX COOLING ENABLE | | | | | | | | | | | | X | | | | 1 |
| AO-1 | COMPRESSOR SPEED | | | | | | | | | | | | | X | | | 1 |
| DO-4 | DX STAGE 2 ENABLE | | | | | | | | | | | | X | | | | 1 |
| DO-5 | HOT GAS REHEAT ENABLE | | | | | | | | | | | | X | | | | 1 |
| DO-6 | HEAT ENABLE | | | | | | | | | | | | X | | | | 1 |
| DO-7 | ENERGY WHEEL ENABLE | | | | | | | | | | | | X | | | | 1 |
| AO-2 | HOT GAS REHEAT RESET | | | | | | | | | | | | | X | | | 1 |
| AI-3 | SUPPLY AIR TEMPERATURE | | | | X | | | | | | | | | | | X | 1 |
| AO-3 | SUPPLY FAN SPEED | | | | | | | | | | | | | | X | | 1 |
| AO-4 | EXHAUST FAN SPEED | | | | | | | | | | | | | | X | | 1 |
| AO-5 | ECONOMIZER | | | | | | | | | | | | X | | | | 1 |
| AO-6 | MOD GAS HEAT | | | | | | | | | | | | | X | | | 1 |
| AI-4 | RETURN AIR TEMPERATURE | | | | X | | | | | | | | | | | | 1 |
| COM | OUTSIDE AIR HUMIDITY | | | | | X | | | | | | | | | | | 1 |
| COM | OUTSIDE AIR TEMPERATURE | | | | | X | | | | | | | | | | | 1 |
| AI-5 | SUCTION PRESSURE 1 | | | | X | | | | | | | | | | | | 1 |
| DI-2 | ENERGY WHEEL STATUS | X | | | | | | | | | | | | | | X | 1 |
| AI-6 | LEAVING WHEEL TEMP | | | | | X | | | | | | | | | | | 1 |
| AI-7 | SPACE TEMP | | | | | X | | | | | | | | | | X | 1 |
| AI-8 | SPACE HUMIDITY | | | | | | X | | | | | | | | | | 1 |
| AI-9 | SPACE CO2 | | | | | | | | | X | | | | | | | 1 |
| AI-10 | SPACE PRESSURE | | | | X | | | | | | | | | | | | 1 |
| AI-11 | SUCTION PRESSURE 2 | | | | X | | | | | | | | | | | | 1 |
| AO-7 | BYPASS DAMPER | | | | | | | | | | | | | X | | | 1 |
| AI-12 | MIXED AIR TEMP | | | | | X | | | | | | | | | | | 1 |
| DI-3 | A2L ALARM | X | | | | X | | | | | | | | | | X | 1 |

1. POINT PROVIDED ON RTU TERMINAL STRIP

KEYPLAN

ISSUE HISTORY

| A | DATE | ISSUED FOR |
|---|------------|------------------|
| 3 | 2025-03-28 | ISSUE ADDENDUM 3 |

SHEET TITLE
**MECHANICAL
CONTROLS**

DRAWING NUMBER
M401

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NOT FOR
CONSTRUCTION

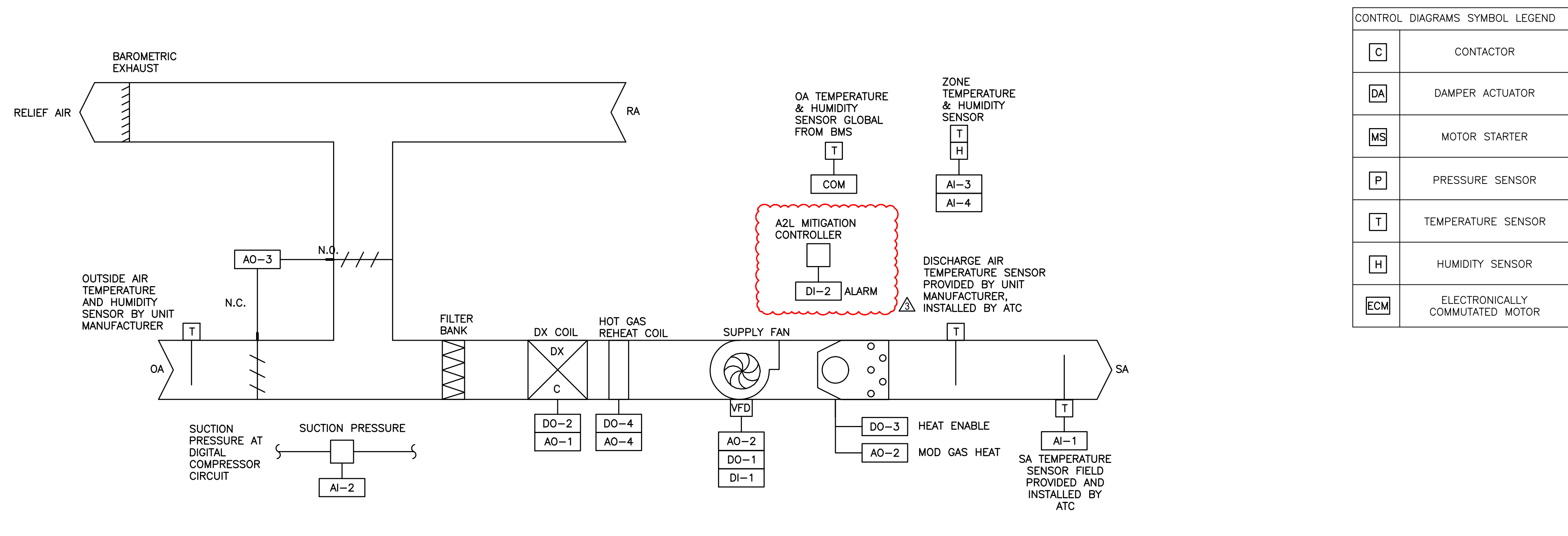
KEYPLAN

| Δ | DATE | ISSUED FOR |
|---|--------------------------|-------------------------|
| 3 | 2025-03-28 2025-05-14 | BID ISSUE ADDENDUM 3 |

SHEET TITLE
MECHANICAL
CONTROLS

DRAWING NUMBER

M402



| CONTROL DIAGRAMS SYMBOL LEGEND | |
|--------------------------------|---------------------------------|
| C | CONTACTOR |
| DA | DAMPER ACTUATOR |
| MS | MOTOR STARTER |
| P | PRESSURE SENSOR |
| T | TEMPERATURE SENSOR |
| H | HUMIDITY SENSOR |
| ECM | ELECTRONICALLY COMMUTATED MOTOR |

SEQUENCE OF OPERATION: RTU-2

NEW CONTROL REQUIREMENTS SHALL INCLUDE THE PLACEMENT OF A NEW UNIT CONTROLLER WITH I/O EXPANSION INSIDE THE UNIT CONTROLLER CABINET FOR CONTROL OF UNIT VIA MANUFACTURER PROVIDED TERMINAL STRIP. THIS UNIT SHALL BE CONNECTED TO THE BUILDING WIDE COMMUNICATION CABLE (BUS) AND SHALL INTEGRATE ALL POINTS BACK TO SUPERVISORY CONTROLLER. MOUNT NEW CONTROLLER IN UNIT ENCLOSURE AND PROVIDE 120/24V TRANSFORMER FOR POWER. THE ATC CONTRACTOR SHALL INSTALL THE DISCHARGE AIR TEMPERATURE SENSOR FURNISHED BY THE UNIT MANUFACTURER. PROVIDE COMPLETE INDIVIDUAL UNIT SCHEDULING FUNCTION THROUGH BUILDING SUPERVISORY CONTROLLER. THE BAS WILL ENFORCE START THE UNIT TO ACHIEVE SPACE TEMPERATURE SETPOINT FOR OCCUPANCY. THE OPERATOR WILL BE ABLE TO ADJUST THE UNIT START/STOP USING THE OPERATOR'S WORKSTATION.

- SINGLE ZONE VAV:** THE UNIT SHALL BE CONFIGURED FOR SINGLE ZONE VAV OPERATION AND SHALL BE PROVIDED WITH VFD DRIVES. ZONE TEMPERATURE SHALL BE CONTROLLED VIA A SEQUENCED DAT RESET AND FAN SPEED CONTROL. THE UNIT CONTROLLER SHALL USE ZONE TEMPERATURE TO AUTOMATICALLY SELECT HEATING OR COOLING MODE. HEATING AND COOLING DEMAND SHALL BE CALCULATED THROUGH INDEPENDENT HEATING AND COOLING PID OUTPUTS. THESE PIDS SHALL HAVE INDIVIDUALLY ADJUSTABLE INTERVAL, BAS, AND PROPORTIONAL, INTEGRAL, AND, DERIVATIVE PARAMETERS CAREFULLY TUNED IN EACH APPLICATION FOR SLOW ACTION TO AVOID HUNTING OF FAN SPEED DRIVES. THE DISCHARGE AIR TEMPERATURE SHALL FIRST BE RESET DEPENDING ON ZONE HEATING OR COOLING DEMAND WITH FAN OPERATING AT MIN AIRFLOW/SPEED, THEN SUPPLY AIR FAN WILL MODULATE THROUGH ITS MIN AND MAX SPEED RANGE TO MAINTAIN THE ZONE TEMPERATURE SETPOINT AS DESCRIBED BELOW.
- OCCUPIED MODE:** SUPPLY FAN SHALL RUN CONTINUOUSLY WITH OA DAMPER IN ITS MINIMUM POSITION. THE UNIT CONTROLLER SHALL MEASURE THE SUPPLY AIR TEMPERATURE AND MODULATE THE HEATING AND COOLING TO MAINTAIN ITS HEATING AND COOLING SPACE SETPOINT. THE OPERATOR WILL BE ABLE TO ADJUST THE UNIT START/STOP TIMES USING THE OPERATOR'S WORKSTATION. THE BAS WILL MONITOR THE STATUS OF THE FAN AND GENERATE AN ALARM IF THE FAN FAILS TO A START/STOP COMMAND. THE OUTDOOR AIR DAMPER SHALL HAVE PROPORTIONAL CONTROL WHICH SHALL MODULATE THE DAMPER PROPORTIONALLY WITH FAN SPEED TO MAINTAIN MINIMUM OUTSIDE AIRFLOW THROUGHOUT THE RANGE OF FAN AIRFLOW.
- ECONOMIZER MODE:** BAS CONTROLLER SHALL PERMIT AIR-SIDE ECONOMIZER OPERATION WHEN OUTDOOR AIR IS LESS THAN 65 DEG F BUT GREATER THAN 55 DEG F. ECONOMIZER SHALL ONLY OPERATE WHEN THE ROOM IS IN THE COOLING MODE WITH OUTSIDE RELATIVE HUMIDITY BETWEEN 40% AND 60%. WHEN CONDITIONS FOR ECONOMIZER COOLING ARE SATISFIED THE OUTDOOR AIR DAMPER WILL MODULATE TO MAINTAIN THE DISCHARGE AIR TEMPERATURE TO ITS TARGET. ON A RISE IN DISCHARGE AIR TEMPERATURE ABOVE TARGET THE OUTDOOR AIR DAMPER WILL MODULATE OPEN. THE REVERSE WILL OCCUR ON A FALL IN DISCHARGE AIR TEMPERATURE BELOW TARGET.
- DEHUMIDIFICATION OVERRIDE:** THE SPACE TEMPERATURE SENSOR WILL HAVE A PUSH-BUTTON WHEN PRESSED DURING THE UNOCCUPIED MODE, WILL INDEX THE EQUIPMENT TO AN OCCUPIED MODE FOR A PERIOD OF 2-HOURS (ADJUSTABLE).
- UNOCCUPIED MODE:** WHEN THE UNIT IS SHUT DOWN BY EITHER A STOP COMMAND OR SYSTEM SAFETY THE UNIT WILL BE SET AS FOLLOW: SUPPLY FAN WILL BE OFF, OUTDOOR AIR DAMPER CLOSED, RETURN AIR DAMPER OPEN, DX COOLING OFF. UNIT SHALL CYCLE IF SPACE TEMPERATURE FALLS BELOW THE UNOCCUPIED SETPOINT IN HEATING MODE (ADJ.) AND ABOVE UNOCCUPIED COOLING MODE (ADJ.) WITH OUTSIDE AIR DAMPER CLOSED. THE UNIT WILL DE-ENERGIZE WHEN THE SPACE TEMPERATURE IS AT LEAST 4 DEGREE F ABOVE THE UNOCCUPIED HEATING SETPOINT. UNOCCUPIED COOLING IS IDENTICAL TO THE OCCUPIED OPERATION EXCEPT ONLY ONE STAGE OF COOLING IS THE ACTIVE STAGE.
- DX COOLING:** ON A RISE IN SPACE TEMPERATURE ABOVE THE COOLING SETPOINT (ADJ.), THE FIRST STAGE OF COOLING SHALL BE ACTIVATED. THE UNIT CONTROLLER SHALL MODULATE THE COMPRESSOR TO MAINTAIN THE UNIT DISCHARGE TARGET TEMPERATURE. THE DISCHARGE TARGET TEMPERATURE SHALL BE RESET BASED ON SPACE TEMPERATURE SETPOINT BEING MAINTAINED BY INCREASING OR DECREASING DISCHARGE TEMPERATURE. MODULATION OF COOLING SHALL BE CONFIGURED SUBJECT TO USER ADJUSTABLE MINIMUM RUN TIMES, MINIMUM OFF TIMES, MODULATING UP AND MODULATING DOWN DELAYS.
 - FIRST STAGE - COOLING DAT RESET: THE UNIT CONTROLLER SHALL FIRST RESET THE DAT FROM MAX 70F (ADJ.) TO MIN OF 55F (ADJ.) WHILE SUPPLY AIR FLOW STAYS AT MIN FAN SPEED SETPOINT OF 60% (ADJ.). THE UNIT CONTROLLER SHALL MODULATE THE DIGITAL COMPRESSOR TO MAINTAIN THE DAT SETPOINT.
 - SECOND STAGE - INCREASE AIRFLOW: UPON CONTINUED ZONE TEMPERATURE ABOVE SETPOINT (COOLING PID OUTPUT INCREASING FROM 60-100%(ADJ.)), INCREASE SUPPLY AIRFLOW SETPOINT FROM MIN TO MAX BALANCED VFD SPEED SETPOINT.
 - REVERSE SHALL OCCUR AS ZONE TEMPERATURE DROPS BELOW COOLING SETPOINT.
 - THE DIGITAL COMPRESSOR CONTINUES TO MODULATE DURING THE ENTIRE COOLING OPERATION.
 - IF THE ECONOMIZER IS ENABLED IT WILL FUNCTION AS THE FIRST STAGE OF COOLING.

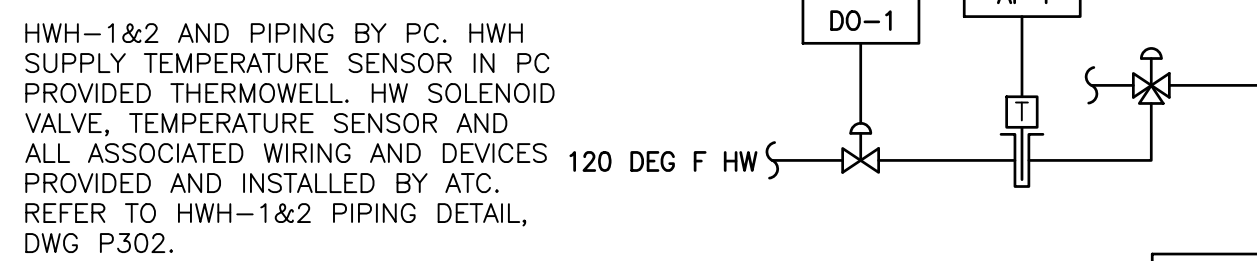
- DEHUMIDIFICATION:** WHEN SPACE HUMIDITY SENSOR GOES ABOVE 55% RH (ADJ.), THE SUPPLY FAN SHALL MAINTAIN A CONSTANT 60% (ADJ.) SPEED AND AND THE BAS SHALL ENABLE HOT GAS RE-HEAT AND MODULATE DIGITAL COMPRESSOR TO MAINTAIN DISCHARGE AIR TEMPERATURE SETTING (ADJ.) LOGIC MUST BE SET TO MAKE COOLING OR DEHUMIDIFICATION THE PRIORITY.
 - ONCE IN DEHUMIDIFICATION, THE UNIT WILL MAINTAIN THE EVAPORATOR COIL SUCTION TEMPERATURE AT THE COIL SUCTION TEMPERATURE SETPOINT BY MODULATING THE DIGITAL COMPRESSOR (1.5 - 5.0 VDC OPERATION).
 - TO STAGE DOWN THE EXTRA COMPRESSORS, THE EVAPORATOR COIL SUCTION TEMPERATURE NEEDS TO BE BELOW THE EVAPORATOR COIL SUCTION TEMPERATURE SETPOINT AND THE DIGITAL COMPRESSOR NEEDS TO BE AT 0% FOR A PERIOD OF TIME EQUAL TO THE STAGING DOWN DELAY.
 - REHEAT IS ALWAYS CONTROLLED TO THE ACTIVE SUPPLY AIR TEMPERATURE SETPOINT.
- COIL SUCTION TEMPERATURE SETPOINT RESET:** DURING DEHUMIDIFICATION THE SYSTEM WILL AUTOMATICALLY RESET THE COIL SUCTION TEMPERATURE SETPOINT WITHIN A ± 5 DEG RANGE BASED ON THE SPACE HUMIDITY SENSOR CONDITION CHANGING ± 5 % FROM THE HUMIDITY SETPOINT.
- MORNING WARM-UP:** ON OCCUPIED DAYS THE SYSTEM WILL INITIATE MORNING WARM-UP CYCLE ½ HOUR BEFORE SCHEDULED OCCUPANCY. THE PROCESS WILL INITIATE SUPPLY FAN AND HOT WATER HEAT TO REACH OCCUPIED SETPOINT WITHOUT OUTDOOR AIR DAMPER OPEN. FREEZE PROTECTION WILL BE ACTIVE DURING THIS OPERATION.
- GAS HEATING DEMAND:** WHEN ZONE TEMPERATURE DROPS BELOW HEATING DEADBAND SETPOINT, UNIT CONTROL SHALL BE INDEXED TO HEATING MODE AND COOLING SHALL BE DISABLED.
 - FIRST STAGE - HEATING DAT RESET: THE UNIT CONTROLLER SHALL FIRST RESET DAT FROM MIN 70F (ADJ.) TO MAX OF 85F (ADJ.) WHILE SUPPLY AIR FLOW STAYS AT MIN FAN SPEED SETPOINT OF 60% (ADJ.). THE UNIT CONTROLLER SHALL MODULATE THE GAS HEATING VALVE TO MAINTAIN ITS DAT SETPOINT.
 - SECOND STAGE - INCREASE AIRFLOW: UPON CONTINUED ZONE TEMPERATURE BELOW SETPOINT, HEATING PID OUTPUT INCREASING FROM 80-100% (ADJ.) SHALL INCREASE SUPPLY AIRFLOW SETPOINT FROM MIN TO MAX BALANCED VFD SPEED.
 - REVERSE SHALL OCCUR AS ZONE TEMPERATURE RISES ABOVE HEATING SETPOINT.

- AZL MITIGATION:** THE AZL MITIGATION CONTROLLER SHALL BE FACTORY PROVIDED BY THE UNIT MANUFACTURER. ALL FUNCTIONS OF THE AZL MITIGATION SHALL BE PROVIDED BY THE UNIT MANUFACTURER. WHEN ANY OF THE UNITS AZL SENSORS DETECT AN AZL REFRIGERANT LEAK OR CONTROLLER DOES NOT DETECT A SENSOR CONNECTION, THE CONTROLLER SHALL ENABLE THE SUPPLY FAN, DISABLE THE COMPRESSORS AND ENABLE THE AZL ALARM. THE ATC CONTRACTOR SHALL RECEIVE THE AZL ALARM AND DISPLAY ON OPERATOR WORKSTATION.

VRF & SPLIT SYSTEM SEQUENCE OF OPERATION:

- DUCTLESS SPLIT SYSTEM HEAT PUMP AND VRF SYSTEMS** SHALL BE OPERATED BY MANUFACTURER CONTROLS & WALL MOUNTED THERMOSTAT. THE ATC CONTRACTOR SHALL INTEGRATE ALL UNITS THROUGH BACKNET IP THROUGH BUILDING SUPERVISORY CONTROLLER. ALARMS AND DIAGNOSTICS SHALL BE AVAILABLE THROUGH THE BAS GRAPHICS.
- THERMOSTATS** SHALL HAVE OCCUPANT TEMPERATURE OVERRIDE WITH ±2 DEGREE F ADJUSTMENT RANGE. PROVIDE ALL CALLING ROOM THERMOSTATS IN CLEAR PLASTIC LOCKABLE ENCLOSURES: CC-1-61, CC-2-55, CC-2-29.
- THE CONDENSATE PUMP SAFETY SWITCH FOR CP-1** SHALL BE WIRED TO ASSOCIATED UNIT. UPON CONDENSATE PUMP FAILURE VIA PUMP SAFETY SWITCH, UNIT SHALL BE DISABLED.
- PROVIDE ROOM MCF 127** WITH A TEMPERATURE SENSOR PROVIDED BY THE ATC CONTRACTOR IN ADDITION TO MANUFACTURER'S THERMOSTAT FOR REDUNDANCY.
- VRF REFRIGERANT LEAK DETECTION:** UPON LEAK DETECTION FROM INTEGRAL REFRIGERANT SENSOR, MANUFACTURER PROVIDED CONTROLS SHALL CLOSE AUTOMATIC SHUTOFF VALVES AND ENABLE INDOOR FAN. AN EXTERNAL SIGNAL SHALL BE SENT TO THE BAS. THE ASSOCIATED DOAS SHALL BE PROGRAMMED TO UNABLE IN OCCUPIED MODE BY THE ATC CONTRACTOR.
- DISPLAY/INTERFACE REQUIREMENTS:**
 - ROOM #
 - ZONE TEMPERATURE STATUS AND SETPOINT
 - UNIT OPERATION
 - FAN SPEED
 - AZL REFRIGERANT LEAK ALARM

SPLIT SYSTEM HEAT PUMP & VRF CONTROLS



HWH-1&2 AND PIPING BY PC. HWH SUPPLY TEMPERATURE SENSOR IN PC PROVIDED THERMOWELL, HW SOLENOID VALVE, TEMPERATURE SENSOR AND ALL ASSOCIATED WIRING AND DEVICES PROVIDED AND INSTALLED BY ATC. REFER TO HWH-1&2 PIPING DETAIL, DWG P302.

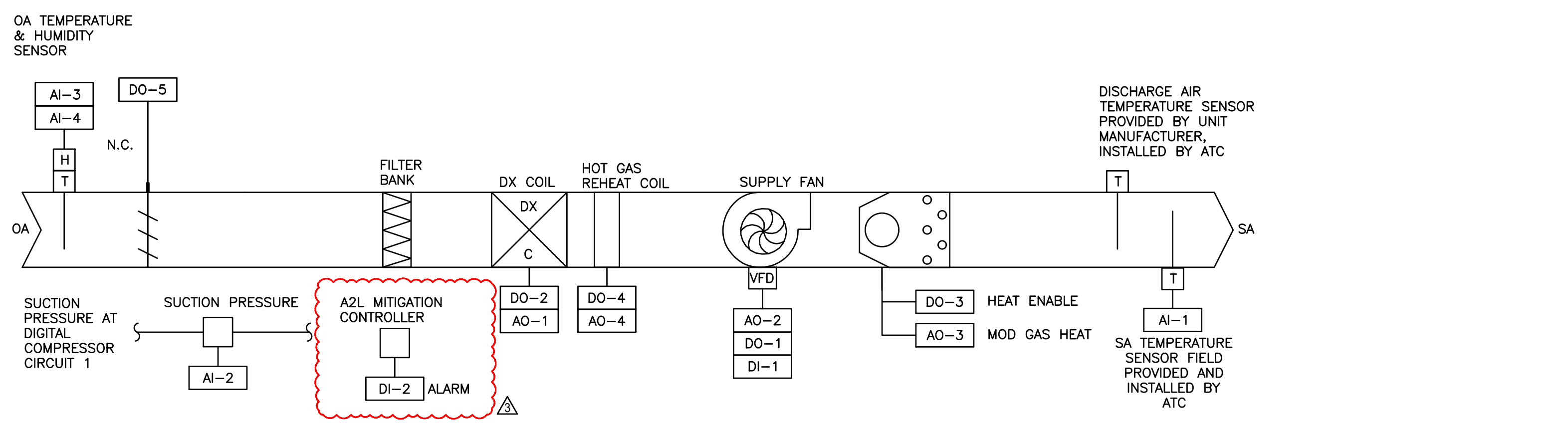
HWH SEQUENCE OF OPERATION:

- HWH ATC:** TO FURNISH A NEW "ANTI-SCALD" SOLENOID VALVE, SENSOR AND ACTUATOR FOR THE 120 DEGREE F DOMESTIC HOT WATER SUPPLY AS SHOWN ON CONTRACT DRAWINGS. VALVE AND SENSORS SHALL BE INSTALLED BY THE PC AND WIRED BY THE ATC CONTRACTOR. THE SOLENOID VALVE SHALL CLOSE WHEN THE WATER TEMPERATURE RISES ABOVE 125 DEGREES F (ADJ.) AND OPEN WHEN THE WATER TEMPERATURE FALLS BELOW 115 DEGREES F (ADJ.) THIS VALVE SHALL BE VIEWABLE IN BOTH VALVE POSITION AND TEMPERATURES (SET POINT AND ACTUAL) ON SYSTEM FRONT END GRAPHIC PACKAGE.

| DOMESTIC HOT WATER SYSTEM POINTS LIST | | | | | | | | | | | | | | | | |
|---------------------------------------|-----------------------|---------|------------|--------|---------|-------------|-------------------|----------|-------|------|-------|------------|--------|------------|------------|---------|
| POINT TAG | POINT DESCRIPTION | INPUTS | | | | | | OUTPUTS | | | | | | FUNCTION | | REMARKS |
| | | DIGITAL | ANALOG | | DIGITAL | ANALOG | | FUNCTION | ALARM | | | | | | | |
| | | | OPEN/CLOSE | STATUS | | TEMPERATURE | RELATIVE HUMIDITY | | | FLOW | SPEED | START/STOP | ON/OFF | MODE INDEX | OPEN/CLOSE | |
| DO-1 | HWH SOLENOID VALVE | | | | | | | | | | | | | | | |
| AI-1 | HWH SUPPLY WATER TEMP | | | X | | | | | | | | | | | | X |

HWH CONTROLS

M402 NO SCALE



SEQUENCE OF OPERATION: MAU-1

NEW CONTROL REQUIREMENTS SHALL INCLUDE THE PLACEMENT OF A NEW UNIT CONTROLLER WITH I/O EXPANSION INSIDE THE UNIT CONTROLLER CABINET FOR CONTROL OF UNIT VIA MANUFACTURER PROVIDED TERMINAL STRIP. THIS UNIT SHALL BE CONNECTED TO THE BUILDING WIDE COMMUNICATION CABLE (BUS) AND SHALL INTEGRATE ALL POINTS BACK TO SUPERVISORY CONTROLLER. MOUNT NEW CONTROLLER IN UNIT ENCLOSURE AND PROVIDE 120/24V TRANSFORMER FOR POWER. PROVIDE DUCT MOUNTED TEMPERATURE SENSORS FOR FULL UNIT CONTROL. THE ATC CONTRACTOR SHALL INSTALL THE DISCHARGE AIR TEMPERATURE SENSOR FURNISHED BY THE UNIT MANUFACTURER. UNIT SHALL BE ENERGIZED VIA HOOD MANUFACTURER STAND-ALONE CONTROLS PROVIDED BY THE FOOD SERVICE CONTRACTOR. REFER TO FOOD SERVICE DRAWINGS FOR ADDITIONAL REQUIREMENTS.

- THE UNIT** SHALL BE CONFIGURED FOR CONSTANT VOLUME OPERATION AND SHALL BE PROVIDED WITH VFD DRIVES FOR BALANCING ONLY. ZONE TEMPERATURE SHALL BE CONTROLLED VIA A SEQUENCED DAT RESET. THE CONTROLLER SHALL USE OUTSIDE AIR TEMPERATURE TO AUTOMATICALLY SELECT HEATING OR COOLING MODE. HEATING AND COOLING DEMAND SHALL BE CALCULATED THROUGH INDEPENDENT HEATING AND COOLING PID OUTPUTS.
- ON MODE:** SUPPLY FAN SHALL RUN CONTINUOUSLY WITH OA DAMPER IN ITS OPEN POSITION WHENEVER THE KITCHEN EXHAUST HOOD FAN (KEF-1) ASSOCIATED WITH THE SYSTEM IS ENERGIZED. THE UNIT CONTROLLER SHALL MEASURE THE SUPPLY AIR TEMPERATURE AND MODULATE THE HEATING AND COOLING TO MAINTAIN ITS HEATING AND COOLING SETPOINT. THE OPERATOR WILL BE ABLE TO ADJUST THE UNIT START/STOP TIMES USING THE OPERATOR'S WORKSTATION. THE BAS WILL MONITOR THE STATUS OF THE FAN AND GENERATE AN ALARM IF THE FAN FAILS TO A START/STOP COMMAND.
- OFF MODE:** WHEN THE UNIT IS IN OFF MODE OR IS SHUT DOWN BY SYSTEM SAFETY THE UNIT WILL BE SET AS FOLLOWS: SUPPLY FAN WILL BE OFF, OUTDOOR AIR DAMPER CLOSED, AND DX COOLING OFF.
- DX COOLING:** MODULATION OF COOLING SHALL BE CONFIGURED SUBJECT TO USER ADJUSTABLE MINIMUM RUN TIMES, MINIMUM OFF TIMES, MODULATING UP AND MODULATING DOWN DELAYS. COOLING IS ENABLED WHEN THE TEMPERATURE AT THE MODE ENABLE DISCHARGE AIR SENSOR RISES ONE DEGREE DEADBAND ABOVE THE COOLING SETPOINT. COOLING IS DISABLED WHEN THE MODE ENABLE TEMPERATURE FALLS ONE WHEN THE OUTSIDE AIR TEMPERATURE IS GREATER THAN 60F (ADJ.), AND DEGREE DEAD BAND BELOW THE COOLING SETPOINT. MAINTAIN A DISCHARGE AIR TEMPERATURE OF 60 DEG F (ADJ.).
 - ONCE IN THE COOLING MODE THE UNIT WILL MAINTAIN THE SUPPLY AIR TEMPERATURE AT THE ACTIVE SUPPLY AIR COOLING SETPOINT BY MODULATING THE DIGITAL COMPRESSOR (1.5 - 5.0 VDC OPERATION). A COOLING RELAY MUST BE CONFIGURED.
 - THE DIGITAL COMPRESSOR CONTINUES TO MODULATE DURING THE ENTIRE COOLING OPERATION.
- DEHUMIDIFICATION:** DEHUMIDIFICATION IS ENABLED BASED ON AN OUTDOOR AIR DEWPOINT SETPOINT.
 - ONCE IN DEHUMIDIFICATION, THE UNIT WILL MODULATE AND STAGE COMPRESSORS BASED ON THE UNIT CONFIGURATION IN
 - ORDER MAINTAIN THE EVAPORATOR COIL SUCTION (SATURATION) TEMPERATURE AT THE COIL SUCTION (SATURATION) TEMPERATURE SETPOINT.
 - DEHUMIDIFICATION REHEAT IS ALWAYS CONTROLLED TO THE APPROPRIATE ACTIVE SUPPLY AIR TEMPERATURE SETPOINT.
 - REHEAT IS VIA MODULATING HOT GAS.
- COIL SUCTION TEMPERATURE SETPOINT RESET:** DURING DEHUMIDIFICATION THE SYSTEM WILL AUTOMATICALLY RESET THE COIL SUCTION TEMPERATURE SETPOINT.
- GAS HEATING DEMAND:** WHEN THE OUTSIDE AIR TEMPERATURE IS LESS THAN 50F (ADJ.) AND LEAVING AIR TEMPERATURE DROPS BELOW HEATING DEADBAND SETPOINT, UNIT CONTROL SHALL BE INDEXED TO HEATING MODE AND COOLING SHALL BE DISABLED. THE UNIT CONTROLLER SHALL MODULATE THE GAS HEATING VALVE TO MAINTAIN ITS DAT SETPOINT OF 55 DEG F (ADJ.).
- LOW TEMPERATURE PROTECTION:** A SUPPLY AIR TEMPERATURE SENSOR DIRECTLY AFTER HEATING REHEAT DE-ENERGIZES THE SUPPLY FAN WHEN TEMPERATURES BELOW 38 DEGREES F ARE SENSED. ALL DAMPERS (OA DAMPER SHALL BE CLOSED) WHEN SENSOR DETECTS 38 DEGREES F, THIS SEQUENCE SHALL SEND AN OPERATIONAL ALARM RESET SHALL BE MANUAL.
- FIRE SUPPRESSION MODE:** UPON ACTIVATION OF THE HOOD FIRE SUPPRESSION SYSTEM, THE EXHAUST FAN KEF-1 WILL COME ON OR CONTINUE TO RUN, THE HOOD MAKEUP AIR WILL SHUTDOWN, AND A SIGNAL WILL BE SENT FOR ACTIVATING MAU UNIT SHUTDOWN. REFER TO FOOD SERVICE DRAWINGS FOR ADDITIONAL REQUIREMENTS.
- AZL MITIGATION:** THE AZL MITIGATION CONTROLLER SHALL BE FACTORY PROVIDED BY THE UNIT MANUFACTURER. ALL FUNCTIONS OF THE AZL MITIGATION SHALL BE PROVIDED BY THE UNIT MANUFACTURER. WHEN ANY OF THE UNITS AZL SENSORS DETECT AN AZL REFRIGERANT LEAK OR CONTROLLER DOES NOT DETECT A SENSOR CONNECTION, THE CONTROLLER SHALL ENABLE THE SUPPLY FAN, DISABLE THE COMPRESSORS AND ENABLE THE AZL ALARM. THE ATC CONTRACTOR SHALL RECEIVE THE AZL ALARM AND DISPLAY ON OPERATOR WORKSTATION.

| MAU POINTS LIST | | | | | | | | | | | | | | | | | |
|-----------------|-----------------------------|------------------|--------|---------------|----------|-------------|----------|----------|----------|-------|---------|------------|--------|-----------------|----------|-------|---------|
| POINT TAG | POINT DESCRIPTION | INPUTS | | | | | | | | | OUTPUTS | | | | | | REMARKS |
| | | DIGITAL | ANALOG | | | DIGITAL | | | ANALOG | | | | | | | | |
| | | SAFETY SHUT DOWN | STATUS | OCC. OVERRIDE | PRESSURE | TEMPERATURE | HUMIDITY | SETPOINT | FEEDBACK | SPEED | AIRFLOW | START/STOP | ON/OFF | DAMPER ACTUATOR | MODULATE | SPEED | ALARM |
| DI-1 | SUPPLY FAN STATUS | X | | | | | | | | | | | | | | | X 1 |
| DO-1 | SUPPLY FAN ENABLE | | | | | | | | | | | X | | | | | 1 |
| DO-2 | DX COOLING ENABLE | | | | | | | | | | | X | | | | | 1 |
| AO-1 | COMPRESSOR SPEED | | | | | | | | | | | | | X | | | 1 |
| DO-3 | GAS HEAT ENABLE | | | | | | | | | | | X | | | | | 1 |
| DO-4 | HOT GAS REHEAT ENABLE | | | | | | | | | | | X | | | | | 1 |
| AI-1 | SUPPLY AIR TEMPERATURE | X | | | X | | | | | | | | | | X | | |
| AO-2 | SUPPLY FAN SPEED | | | | | | | | | | | | | X | | | 1 |
| AO-4 | HOT GAS REHEAT RESET SIGNAL | | | | | | | | | | | | | X | | | 1 |
| AI-2 | SUCTION PRESSURE 1 | | | | X | | | | | | | | | | | | 1 |
| AI-3 | OUTSIDE AIR TEMPERATURE | | | | | X | | | | | | | | | | | |
| AI-4 | OUTSIDE AIR HUMIDITY | | | | | | X | | | | | | | | | | |
| AO-3 | MOD GAS HEAT | | | | | | | | | | | | | X | | | 1 |
| DO-5 | OA DAMPER | | | | | | | | | | | | | X | | | 1 |
| DI-2 | AZL ALARM | | | | X | | | | | | | | | | | X | 1 |

1. POINT PROVIDED ON RTU TERMINAL STRIP

MAU-1 CONTROLS

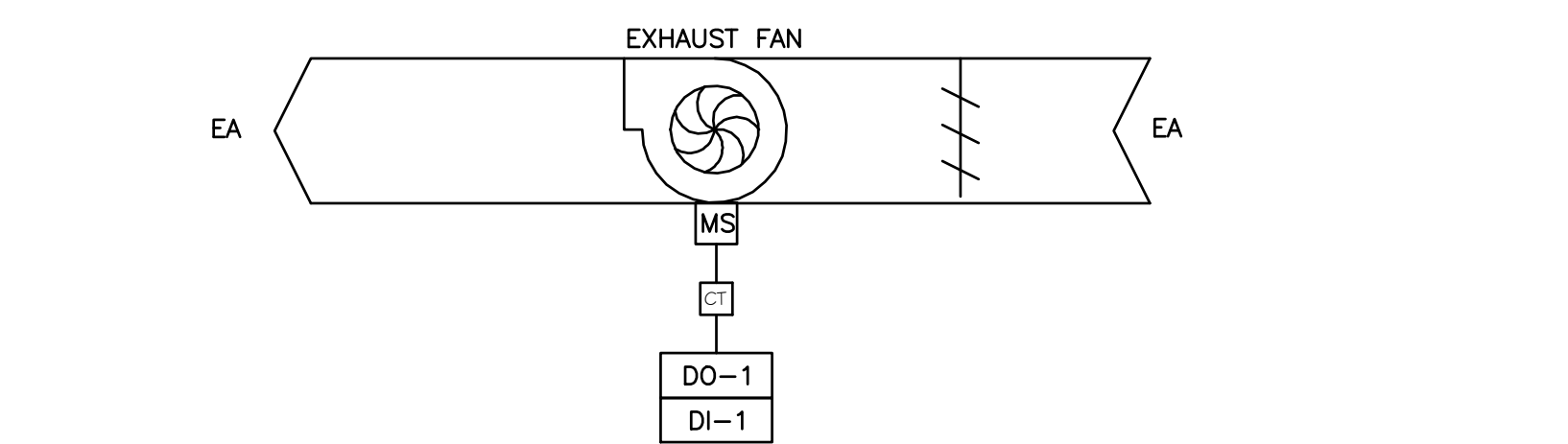
M402 NO SCALE

| ROOFTOP UNIT POINTS LIST | | | | | | | | | | | | | | | | | | |
|--------------------------|-----------------------------|------------------|---------|--------------|----------|-------------|----------|----------|----------|-------|---------|------------|--------|-----------------|----------|-------|-------|---|
| POINT TAG | POINT DESCRIPTION | SAFETY SHUT DOWN | INPUTS | | | | | | | | OUTPUTS | | | | REMARKS | | | |
| | | | DIGITAL | ANALOG | | | | DIGITAL | ANALOG | | | | | | | | | |
| | | | STATUS | OCC OVERRIDE | PRESSURE | TEMPERATURE | HUMIDITY | SETPOINT | FEEDBACK | SPEED | CO2 | START/STOP | ON/OFF | DAMPER ACTUATOR | MODULATE | SPEED | ALARM | |
| DI-1 | SUPPLY FAN STATUS | X | | | | | | | | | | | | | | | X | 1 |
| DO-1 | SUPPLY FAN ENABLE | | | | | | | | | | | | X | | | | | 1 |
| DO-2 | DX COOLING ENABLE | | | | | | | | | | | | X | | | | | 1 |
| AO-1 | COMPRESSOR SPEED | | | | | | | | | | | | | X | | | | 1 |
| DO-4 | HOT GAS REHEAT ENABLE | | | | | | | | | | | | X | | | | | 1 |
| AI-1 | SUPPLY AIR TEMPERATURE | X | | | X | | | | | | | | | | | | X | |
| AO-2 | SUPPLY FAN SPEED | | | | | | | | | | | | | X | | | | 1 |
| AO-3 | ECONOMIZER | | | | | | | | | | | | | X | | | | 1 |
| COM | OUTSIDE AIR TEMPERATURE | | | | X | | | | | | | | | | | | | |
| AI-2 | SUCTION PRESSURE | | | | X | | | | | | | | | | | | | 1 |
| COM | OUTSIDE AIR HUMIDITY | | | | | X | | | | | | | | | | | | |
| AO-2 | MOD GAS HEAT | | | | | | | | | | | | X | | | | | 1 |
| DO-3 | GAS HEAT ENABLE | | | | | | | | | | | | X | | | | | 1 |
| AO-4 | HOT GAS REHEAT RESET SIGNAL | | | | | | | | | | | | | | X | | | 1 |
| AI-3 | ZONE TEMPERATURE | | | | | X | | | | | | | | | | | | |
| AI-4 | ZONE HUMIDITY | | | | | | X | | | | | | | | | | | |
| DI-2 | AZL ALARM | | X | | | | | | | | | | | | | | X | 1 |

1. POINT PROVIDED ON RTU TERMINAL STRIP

RTU-1 CONTROLS

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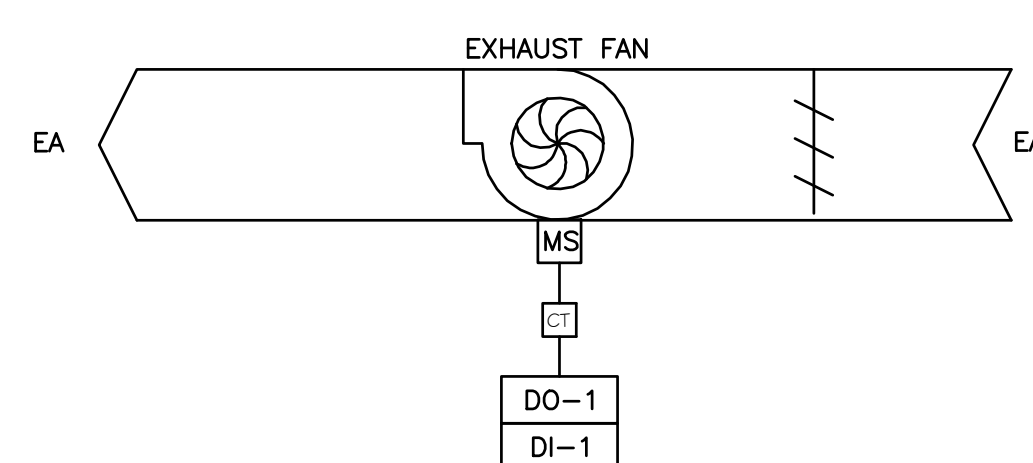
| EXHAUST FAN POINTS LIST | | | | | | | | | | | | | | | | |
|-------------------------|------------------------|------------------|--------|--------------|----------|-------------|----------|----------|----------|------------|--------|-----------------|---------|----------|-------|-------|
| POINT TAG | POINT DESCRIPTION | SAFETY SHUT DOWN | INPUTS | | | | | OUTPUTS | | | | | REMARKS | | | |
| | | | STATUS | OCC OVERRIDE | PRESSURE | TEMPERATURE | SETPOINT | HUMIDITY | POSITION | START/STOP | ON/OFF | DAMPER ACTUATOR | | MODULATE | SPEED | ALARM |
| | | | | | | | | | | | | | | | | |
| DI-1 | EXHAUST FAN STATUS | X | | | | | | | | | | | | | X | |
| DO-1 | EXHAUST FAN START/STOP | | | | | | | | | X | | | | | | |

EXHAUST FAN (EF-1-6) SEQUENCE OF OPERATION:

- THE EXHAUST FAN** SHALL OPERATE ON BUILDING OCCUPANCY SCHEDULE WITH ASSOCIATED DOAS UNIT AS FOLLOWS:
 - EF-1, 3 & 4: DOAS-2
 - EF-2: DOAS-1
 - EF-5: DOAS-3
 - EF-6: DOAS-4
- OCCUPIED MODE:** THE EXHAUST FAN SHALL START.
- UNOCCUPIED MODE:** THE FAN SHALL STOP.
- THE BMS** SHALL MONITOR THE STATUS OF THE EXHAUST FAN (VIA CS) AND GENERATE AN ALARM IF THE FAN FAILS TO RESPOND TO A START/STOP COMMAND.

GENERAL EXHAUST FAN CONTROL DIAGRAM

M402 NO SCALE



| EXHAUST FAN POINTS LIST | | | | | | | | | | | | | | | | |
|-------------------------|------------------------|------------------|--------|--------|--------------|----------|-------------|----------|----------|----------|------------|-----------------|----------|---------|-------|-------|
| POINT TAG | POINT DESCRIPTION | SAFETY SHUT DOWN | INPUTS | | | | | | | OUTPUTS | | | | REMARKS | | |
| | | | X | STATUS | OCC OVERRIDE | PRESSURE | TEMPERATURE | SETPOINT | HUMIDITY | POSITION | START/STOP | DAMPER ACTUATOR | MODULATE | | SPEED | ALARM |
| | | | | | | | | | | | | | | | | |
| DI-1 | EXHAUST FAN STATUS | X | | | | | | | | | | | | | X | |
| DO-1 | EXHAUST FAN START/STOP | | | | | | | | | | X | | | | | |

KEF-1, KEF-2 AND KEF-3

- KEF-1:** THE HOOD EXHAUST FAN KEF-1 SHALL BE CONTROLLED BY THE HOOD MANUFACTURER STAND-ALONE CONTROLS PROVIDED BY THE

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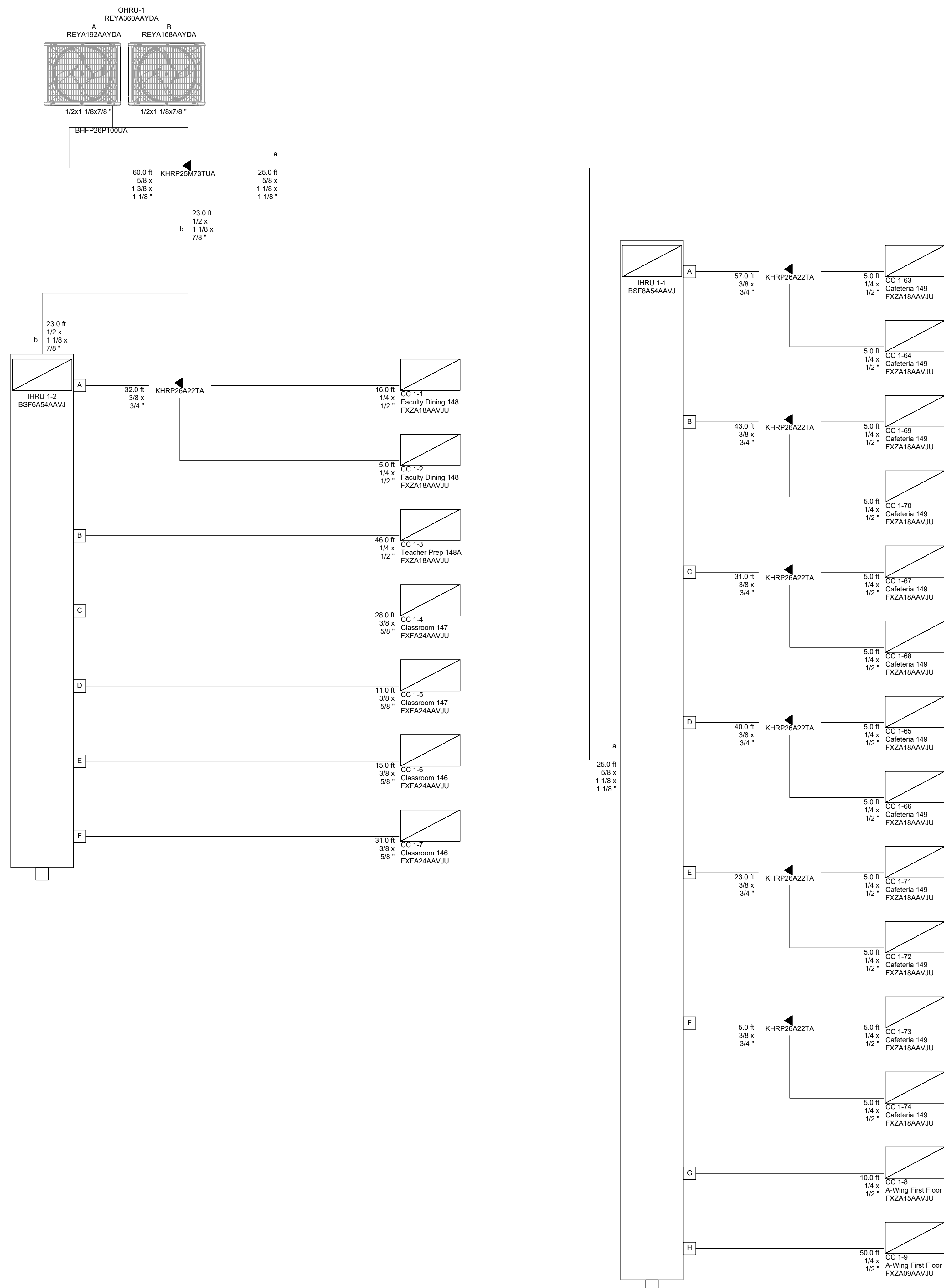
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1 OHRU-1 SYSTEM WIRING AND PIPING DIAGRAMS
M503 NO SCALE

| ISSUE HISTORY | | |
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| 3 | 2025-03-28 | BID ISSUE |
| | 2025-05-14 | ADDENDUM 3 |

SHEET TITLE
**MECHANICAL
DETAILS**

DRAWING NUMBER
M503

PROJECT TEAM

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KEYPLAN

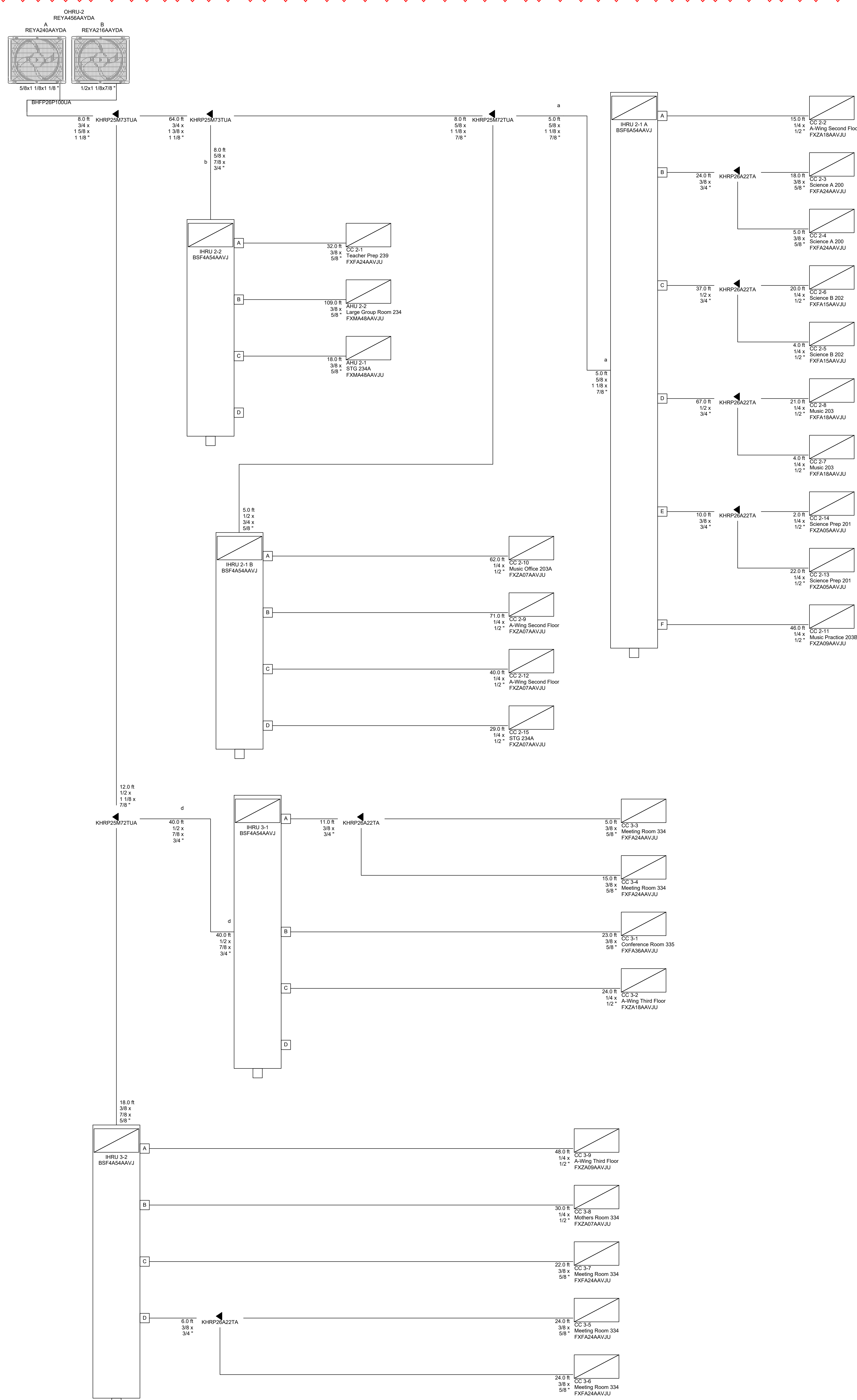
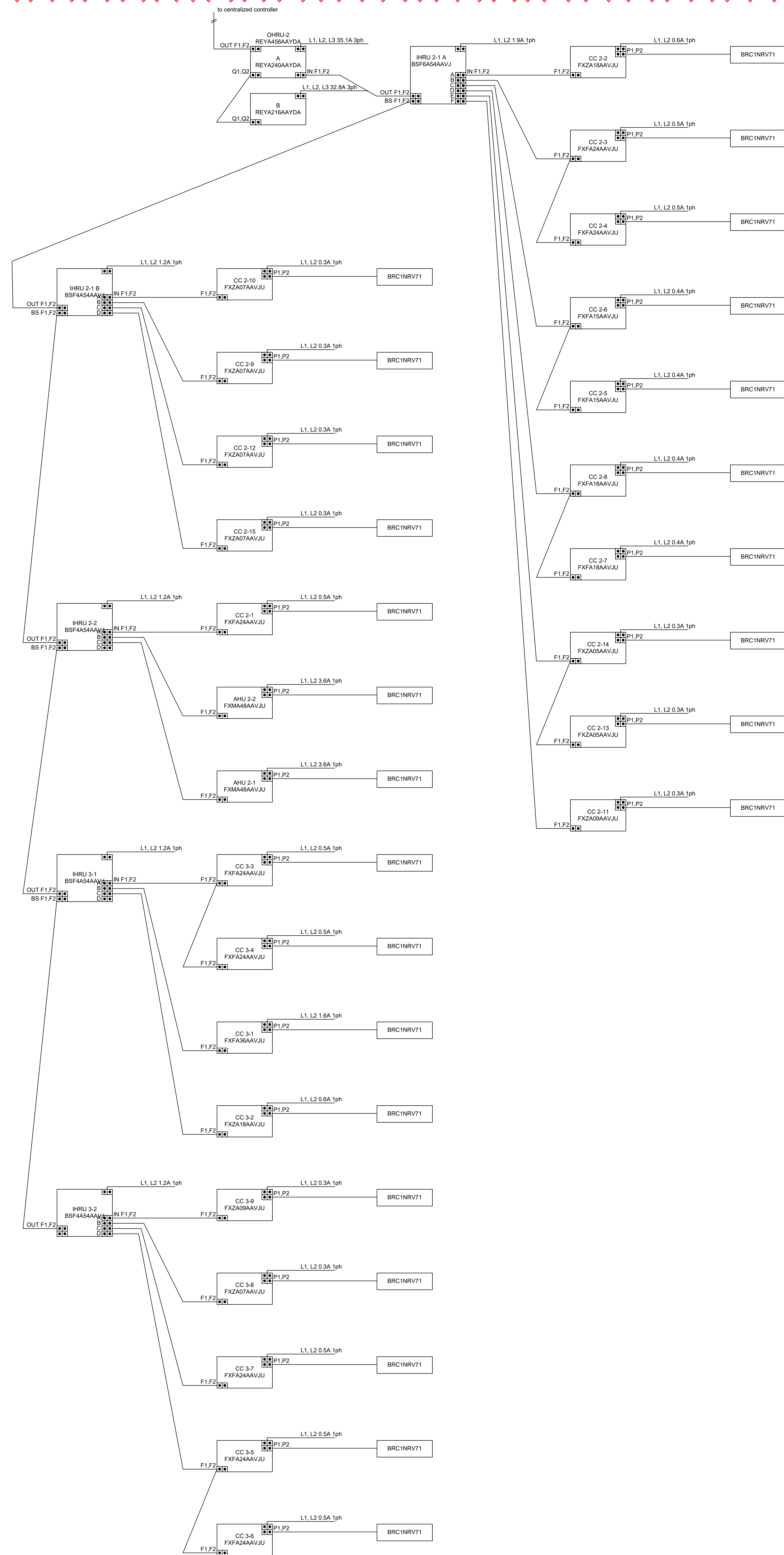
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| A | DATE | ISSUED FOR |
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| 3 | 2025-03-28 | BD ISSUE |
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SHEET TITLE
MECHANICAL
DETAILS

DRAWING NUMBER

M504



OHRU-2 SYSTEM WIRING AND PIPING DIAGRAMS
M504 / NO SCALE

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KEYPLAN

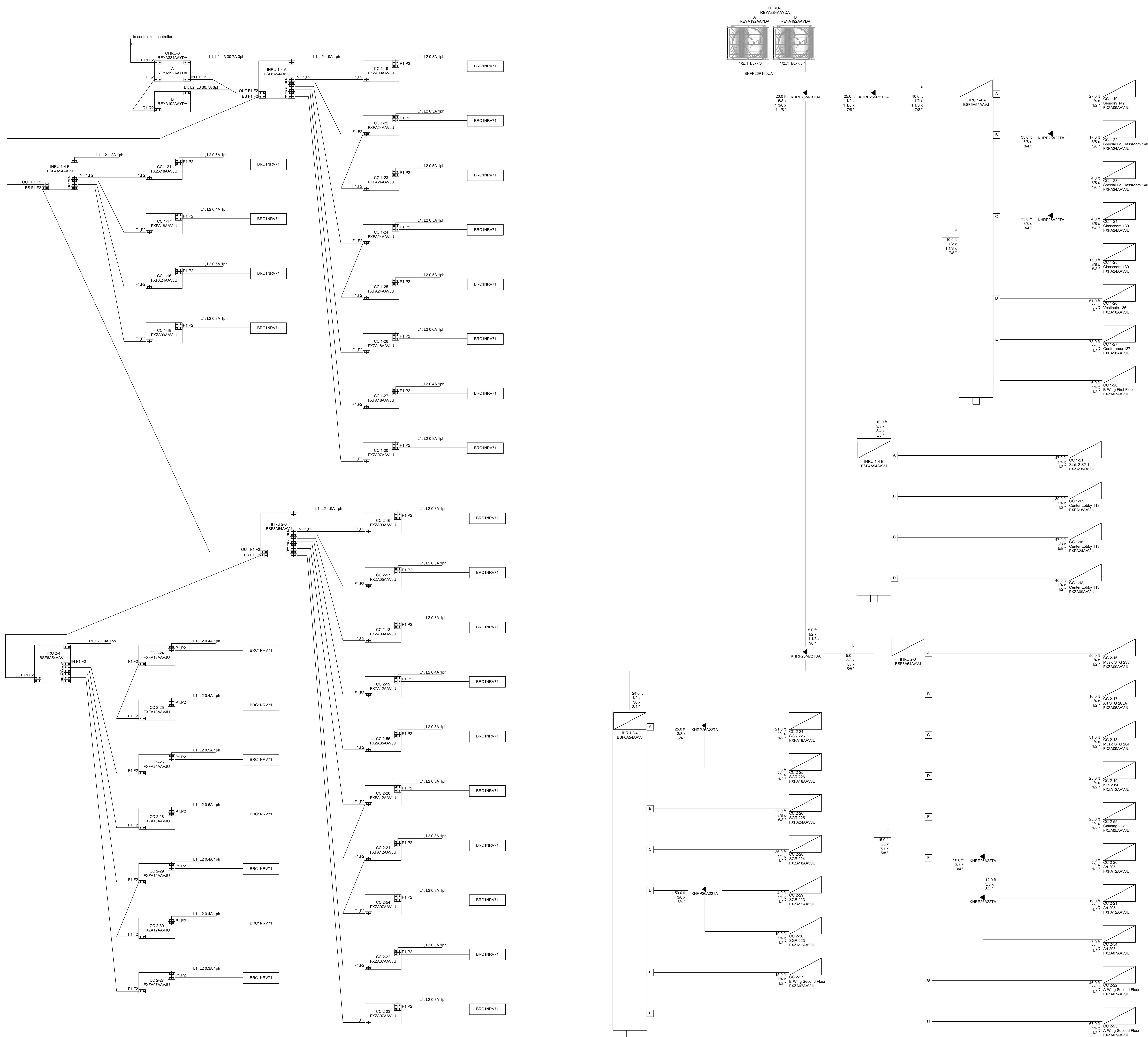
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| 3 | 2025-03-28 | BD ISSUE |
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SHEET TITLE
MECHANICAL
DETAILS

DRAWING NUMBER

M505



1 OHRU-3 SYSTEM WIRING AND PIPING DIAGRAMS
M505 / NO SCALE

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CONSTRUCTION

KEYPLAN

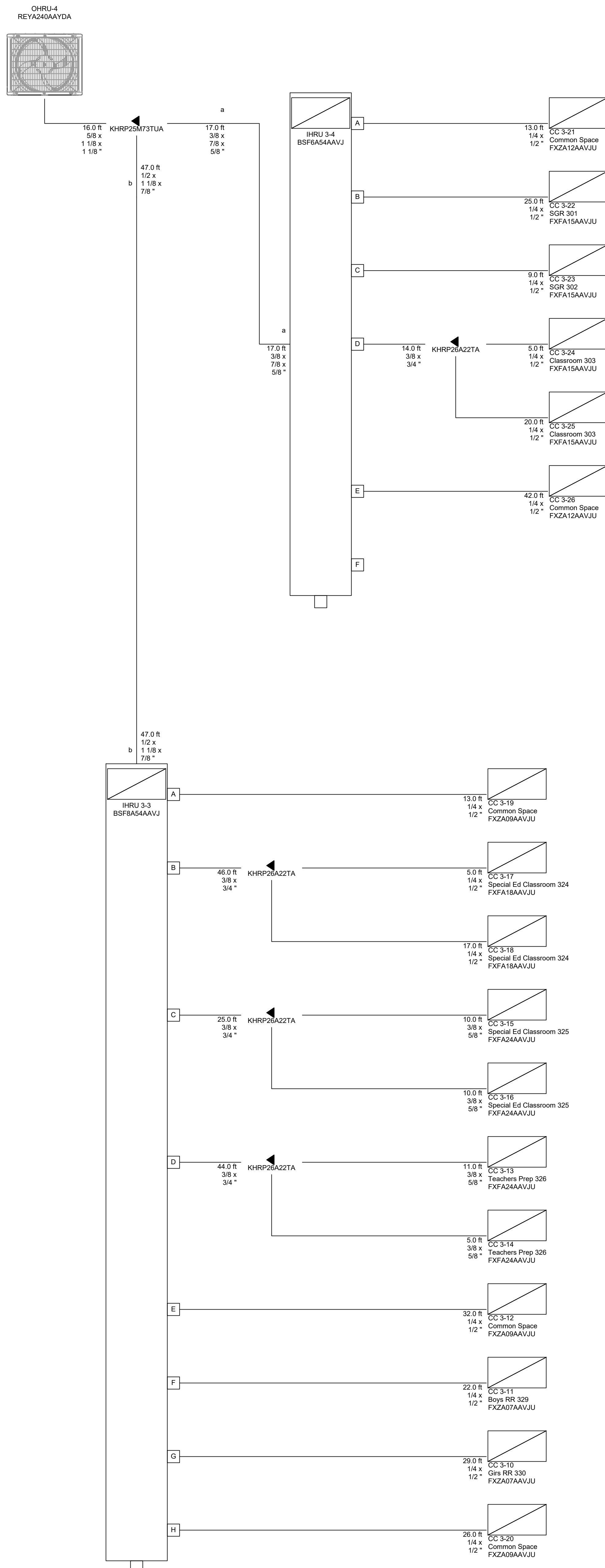
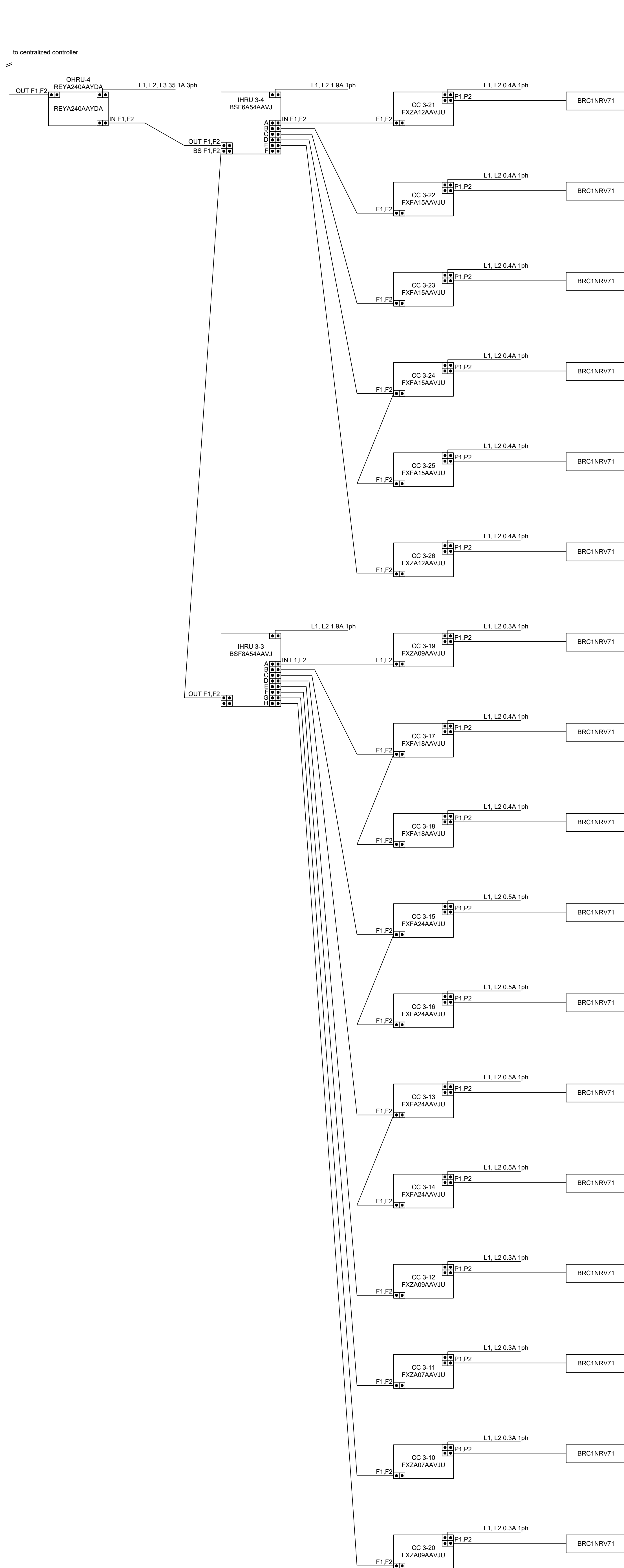
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| 3 | 2025-03-28 | BID ISSUE |
| | 2025-05-14 | ADDENDUM 3 |

SHEET TITLE
MECHANICAL
DETAILS

DRAWING NUMBER

M506



OHRU-4 SYSTEM WIRING AND PIPING DIAGRAMS

1/1000 NO SCALE

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KEYPLAN

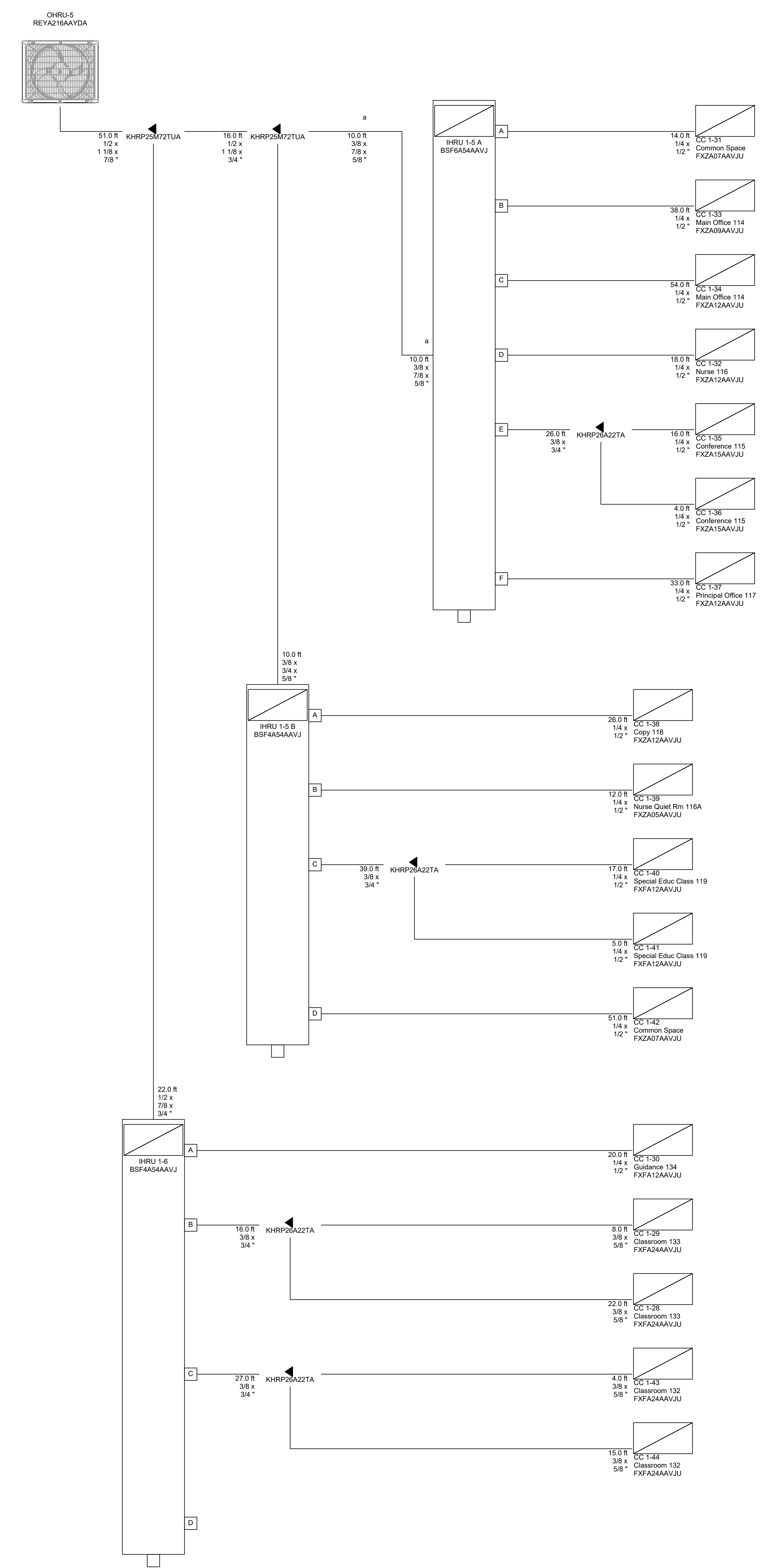
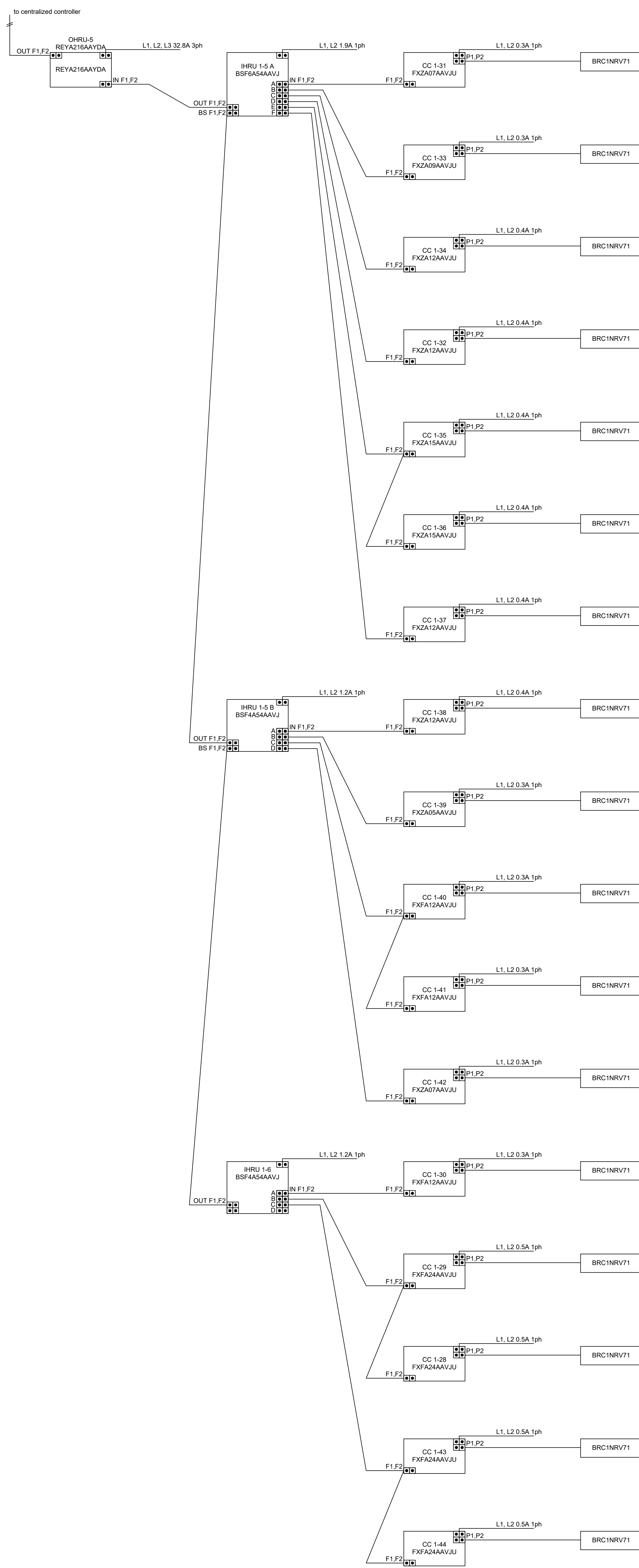
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| # | DATE | ISSUED FOR |
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| 3 | 2025-03-28 | BD ISSUE |
| | 2025-05-14 | ADDENDUM 3 |

SHEET TITLE
MECHANICAL
DETAILS

DRAWING NUMBER

M507



OHRU-5 SYSTEM WIRING AND PIPING DIAGRAMS
M507 / NO SCALE

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KEYPLAN

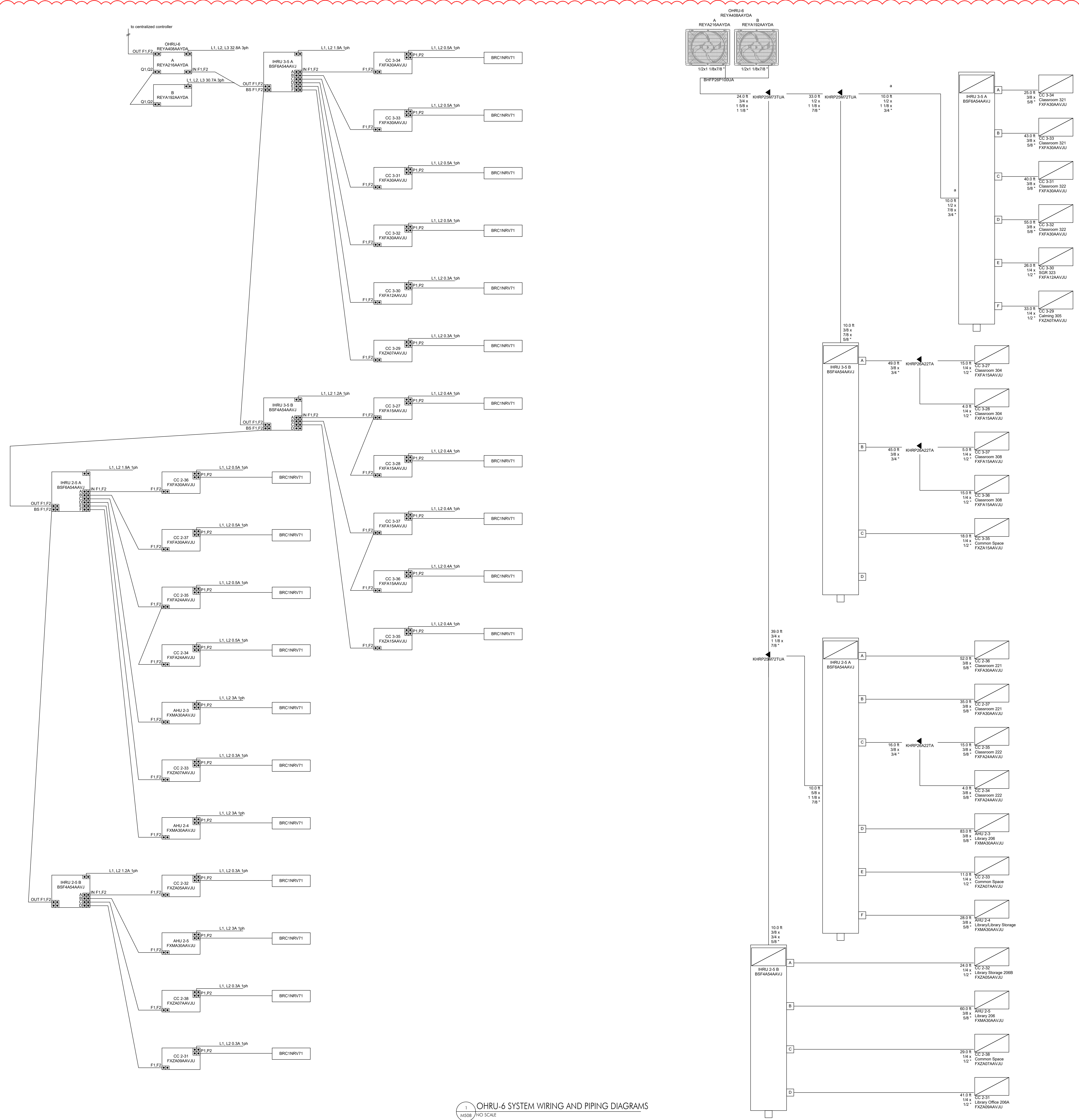
ISSUE HISTORY

| A | DATE | ISSUED FOR |
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| 3 | 2025-03-28 | BD ISSUE |
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SHEET TITLE
MECHANICAL
DETAILS

DRAWING NUMBER

M508



1 OHRU-6 SYSTEM WIRING AND PIPING DIAGRAMS
M508 N/D SCALE

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KEYPLAN

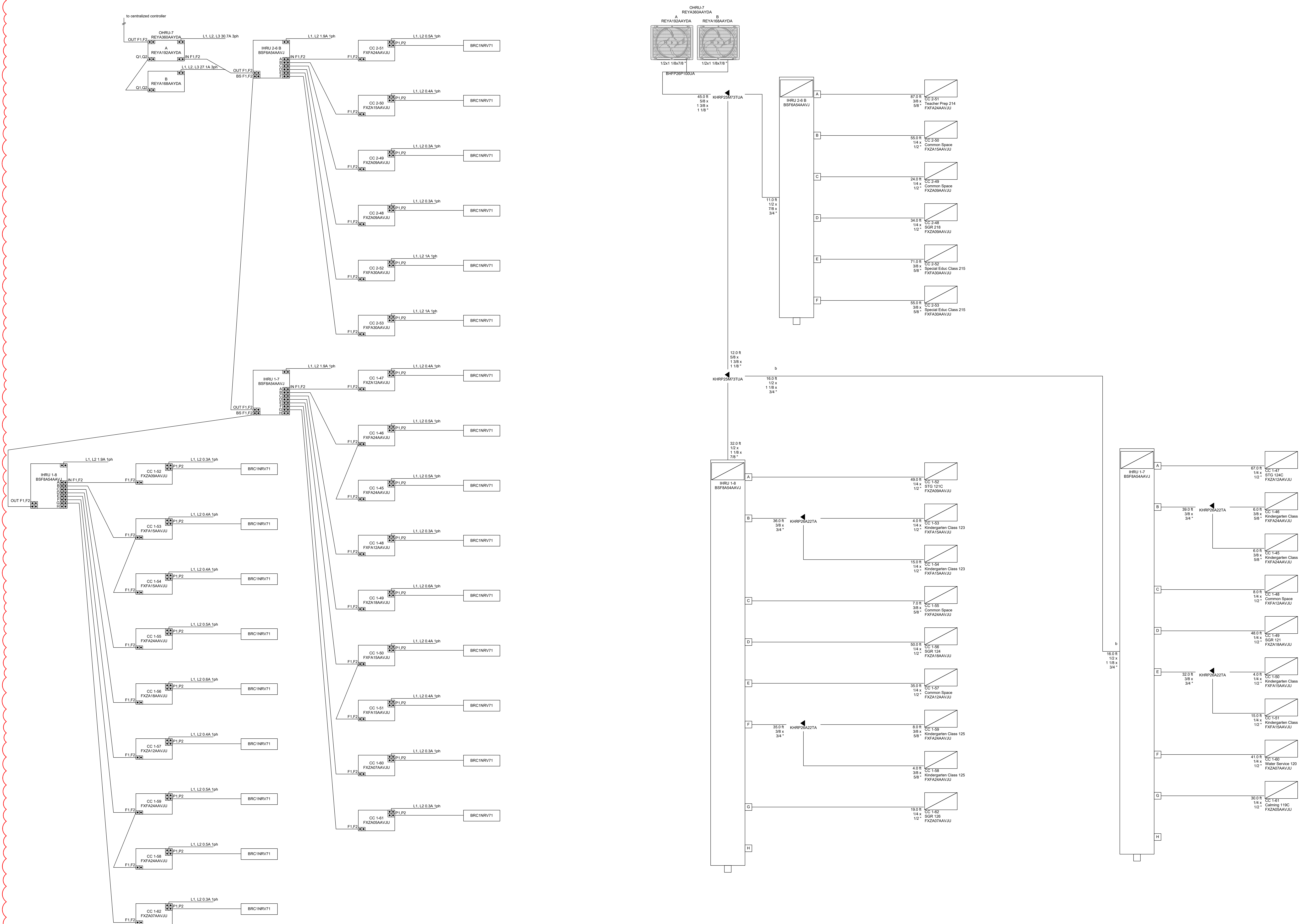
ISSUE HISTORY

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| 3 | 2025-03-28 | BD ISSUE |
| | 2025-05-14 | ADDENDUM 3 |

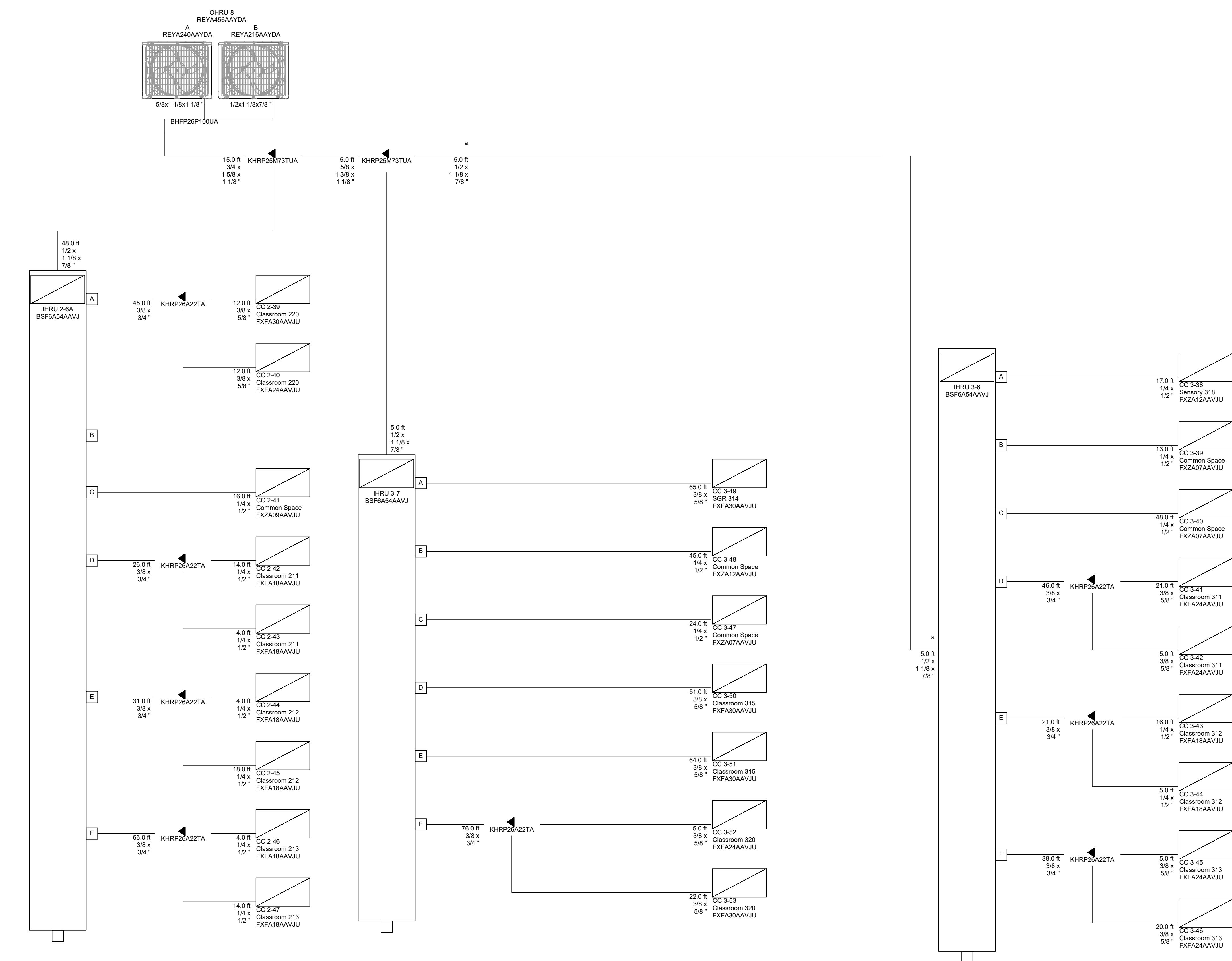
SHEET TITLE
MECHANICAL
DETAILS

DRAWING NUMBER

M509



OHRU-7 SYSTEM WIRING AND PIPING DIAGRAMS
1/2" = 1'-0"



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