SEISMIC AND WIND REQUIREMENTS FOR MECHANICAL SYSTEMS

MIC-2012 HEAT 7-16

1. PROVIDE A COOLED OR CENTERED DUCT SYSTEM TO SUSTAIN THE CRITICAL TEMPERATURES OF THE SPACE/FACILITY.

2. PROVIDE ALL MECHANICAL EQUIPMENT SHALL MEET THE CRITICAL TEMPERATURES OF THE SPACE/FACILITY.

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50. PROVIDE ALL MECHANICAL EQUIPMENT SHALL MEET THE CRITICAL TEMPERATURES OF THE SPACE/FACILITY.
1. ALL PIPING SHALL BE HARD DRAWN COPPER TUBING WITH SOLDERED JOINTS.

NOTES:
- CONNECTION
- AS TERMINAL (TYP)
- PIPE SUPPORTS
- CONCRETE PAD

AIRFLOW
- HEAT PUMP INSTALLATION
- RETURN REGISTER INSTALLATION

RETURN REGISTER
- LAY-IN

WALL FRAMING
- SHEET METAL
- RETURN GRILLE
- DEPTH SAME AS INSECT SCREEN

2'-0" (MIN)

MASTIC TAPE IS NOT ACCEPTABLE, SEE SPECIFICATIONS.

NOTES:
- ACCEPTABLE, REFER TO SPECIFICATIONS.

2. SPIN-IN FITTINGS WITH INTEGRAL SCOOP AND DAMPER SHALL ONLY BE USED ON LOW PRESSURE DUCT.

& INSERT FOR ALL PIPING (8" MIN.)

PROVIDE INSULATION SHIELD

ROUND BRANCH M002

TYPICAL DUCT TAKE OFF INSTALLATION

ADJUSTABLE CLEVIS HANGER

NOTE: FOR TRAPEZE HANGER TAKE SPACING OF SMALLEST SIZE ON TRAPEZE.

6" 8" 10" 12" 14" 16" 18" 20" 24"

1. NO ROOFING PENETRATIONS SHALL BE REQUIRED.

ROUTE TO AIR HANDLER SLEEVE W/SEALANT

GALV. STEEL WALL

ROUTE REFRIGERANT LINES (TYP)

WITH SHEETMETAL STRAPS

ABOVE CEILING 6"

PLENUM SPACE

2'-0" (MIN)

M002

2 ROOF PIPING SUPPORT

REFER TO PLANS FOR

NOTES:

MASTIC TAPE IS NOT ACCEPTABLE, SEE SPECIFICATIONS.

REQUIREMENTS SEE SPECIFICATIONS FOR

NOTES:

ACCEPTABLE, REFER TO SPECIFICATIONS.
**5. ELECTRICAL DRAWINGS FOR EQUIPMENT**

### REFER TO ELECTRICAL DRAWINGS FOR EQUIPMENT

**NOTES:**

<table>
<thead>
<tr>
<th>UNIT ID</th>
<th>Type</th>
<th>Room Served</th>
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<tbody>
<tr>
<td>EH-41</td>
<td>3.0</td>
<td>CEILING MOUNTED W211 UTILITY MARKEL SERIES 3470</td>
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<tr>
<td>EH-37</td>
<td>4.0</td>
<td>CEILING MOUNTED W317 WOMEN MARKEL SERIES 3470</td>
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<td>EH-13</td>
<td>3.0</td>
<td>CEILING MOUNTED W103 UTILITY MARKEL SERIES 3470</td>
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**MOUNT PER MANUFACTURER RECOMMENDATIONS.**

**RECOMMENDATIONS:**

- Furnish manufacturer provided low voltage thermostat, basis of design heaters controlled by breakers in electrical panel, see electrical plans.

**UNIT ID**

- **EH-41:** 3.0 CEILING MOUNTED W211 UTILITY MARKEL SERIES 3470
- **EH-37:** 4.0 CEILING MOUNTED W317 WOMEN MARKEL SERIES 3470
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- **EH-16:** 3.0 CEILING MOUNTED W106 CONCESSION MARKEL SERIES 3470
- **EH-13:** 3.0 CEILING MOUNTED W103 UTILITY MARKEL SERIES 3470
KEY NOTES
1. ROUTE CONDENSATE TO FLOOR DRAIN. REFER TO PLUMBING DRAWINGS.
2. KEEP PANS PROVIDED BY MECHANICAL.
3. DROP CONDENSATE TO DRAIN. REFER TO DETAIL.
4. PROVIDE RTU WITH CONCENTRIC SIDE DISCHARGE DIFFUSER.
5. SUPPORT REFRIGERANT PIPING ON ROOF EVERY 6' AND ALONG BOTH SIDES OF ELBOWS.

GENERAL NOTES
1. DASHED LINE AROUND ROOFTOP EQUIPMENT INDICATES CLEARANCES. OBJECTS ON ROOF SHALL NOT BE WITHIN CLEARANCE LINES INDICATED.
HVAC DUCTWORK PLAN LEVEL 01

1/8" = 1'-0"
1. Provide roof rails and pipe portal on roof for installation of walk-in cooler and freezer. Condensing units and refrigerant lines.

2. Provide rooftop with concentric side discharge equipment. Line up discharges in proper location. Duct work between 25' and 40' for supply and 30' for return.

3. Mount exhaust system in all areas to keep exhaust odors at a minimum. Refer to International Fire Code for additional information.

4. Existing mechanical systems shall be removed completely. Refer to architect for demolition work in this area.

5. Wrap kitchen exhaust duct with fire rated duct wrap.

6. Contractor shall install exhaust fan a minimum of 10'-0".

7. HVAC ductwork plan level 1

8. GENERAL NOTES

   1. All exposed interior and exterior round exhaust duct shall be spiral galvanized.

   2. Dashed line around rooftop equipment indicates clearances. Objects on roof shall not be within clearance lines indicated.

   3. All air supply ducts shall be placed on ceilings to reduce noise levels.
KEY NOTES

1. DROP CONDENSATE TO DRAIN PIT. REFER TO DETAIL.

2. PROVIDE RTU WITH CONCENTRIC SIDE DISCHARGE DIFFUSER. BASIS OF DESIGN IS RUSKIN CDS-20.

3. DUCT ROOF PENETRATIONS ARE 28x18 FOR SUPPLY AND 28x18 FOR RETURN. PROVIDE FIRE DAMPERS AT DUCT ROOF PENETRATIONS.

4. REFER TO ARCHITECTURAL FOR DEMOLITION WORK IN THIS AREA.

5. EXISTING UNIT TO REMAIN.

6. EXISTING UNIT TO BE RELOCATED.

7. EXISTING UNIT SHALL BE RELOCATED TO THIS APPROXIMATE LOCATION. REROUTE ELECTRICAL, REFRIGERANT / WATER LINES, CONDENSATE LINES, ETC. AS NECESSARY. PROVIDE NEW PIPING, INSULATION, AND ALUMINUM JACKET. PROVIDE CONDENSATE DRAINAGE PIPING AND FIRE DAMPERS AT DUCT ROOF PENETRATIONS.

8. REFER TO ARCHITECTURAL FOR DEMOLITION WORK IN THIS AREA.

9. EXISTING UNIT TO REMAIN.

10. EXISTING UNIT TO BE RELOCATED.

11. EXISTING UNIT SHALL BE RELOCATED TO THIS APPROXIMATE LOCATION. REROUTE ELECTRICAL, REFRIGERANT / WATER LINES, CONDENSATE LINES, ETC. AS NECESSARY. PROVIDE NEW PIPING, INSULATION, AND ALUMINUM JACKET. PROVIDE CONDENSATE DRAINAGE PIPING AND FIRE DAMPERS AT DUCT ROOF PENETRATIONS.

12. REFER TO ARCHITECTURAL FOR DEMOLITION WORK IN THIS AREA.

13. EXISTING UNIT TO REMAIN.

14. EXISTING UNIT TO BE RELOCATED.

15. EXISTING UNIT SHALL BE RELOCATED TO THIS APPROXIMATE LOCATION. REROUTE ELECTRICAL, REFRIGERANT / WATER LINES, CONDENSATE LINES, ETC. AS NECESSARY. PROVIDE NEW PIPING, INSULATION, AND ALUMINUM JACKET. PROVIDE CONDENSATE DRAINAGE PIPING AND FIRE DAMPERS AT DUCT ROOF PENETRATIONS.

16. REFER TO ARCHITECTURAL FOR DEMOLITION WORK IN THIS AREA.

17. EXISTING UNIT TO REMAIN.

18. EXISTING UNIT TO BE RELOCATED.

19. EXISTING UNIT SHALL BE RELOCATED TO THIS APPROXIMATE LOCATION. REROUTE ELECTRICAL, REFRIGERANT / WATER LINES, CONDENSATE LINES, ETC. AS NECESSARY. PROVIDE NEW PIPING, INSULATION, AND ALUMINUM JACKET. PROVIDE CONDENSATE DRAINAGE PIPING AND FIRE DAMPERS AT DUCT ROOF PENETRATIONS.

GENERAL NOTES

1. DASHED LINE AROUND ROOFTOP EQUIPMENT INDICATES CLEARANCES. OBJECTS ON ROOF SHALL NOT BE WITHIN CLEARANCE LINES INDICATED.

2. 4" I.D. CIRCULAR DUCTWORK. BASIS OF DESIGN: RUSKIN GRILLE SILENCER MODEL GSV.
1. DASHED LINE AROUND ROOF TOP EQUIPMENT INDICATES CLEARANCES. OBJECTS ON ROOF SHALL NOT BE WITHIN CLEARANCE LINES INDICATED.

2. DROP DUCTWORK TO DRAIN PIT. REFER TO DETAIL.

3. PROVIDE RTU WITH CONCENTRIC SIDE DISCHARGE DIFFUSER. BASED ON DESIGN, DUCT ROOF PENETRATIONS ARE TO BE COVERED WITH FIRE RATED DUCT WRAP, FIRE DAMPERS AT DUCT ROOF PENETRATIONS.

4. PROVIDE RTU WITH CONCENTRIC SIDE DISCHARGE DIFFUSER. BASED ON DESIGN, DUCT ROOF PENETRATIONS ARE TO BE COVERED WITH FIRE RATED DUCT WRAP, FIRE DAMPERS AT DUCT ROOF PENETRATIONS.

5. PROVIDE RTU WITH CONCENTRIC SIDE DISCHARGE DIFFUSER. BASED ON DESIGN, DUCT ROOF PENETRATIONS ARE TO BE COVERED WITH FIRE RATED DUCT WRAP, FIRE DAMPERS AT DUCT ROOF PENETRATIONS.

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GENERAL NOTES

1. PROVIDE RTU WITH CONCENTRIC SIDE DISCHARGE DIFFUSER. BASED ON DESIGN, DUCT ROOF PENETRATIONS ARE TO BE COVERED WITH FIRE RATED DUCT WRAP, FIRE DAMPERS AT DUCT ROOF PENETRATIONS.
1. ALL ROUND DUCTWORK SHALL BE DOUBLE WALL SPIRAL.

2. PROVIDE INSECT SCREEN AT END OF DUCT. NOTIFICATION TO ENGINEER AND UNIT MANUFACTURER.

3. MOST DIRECT ROUTE POSSIBLE. IF LENGTH EXCEEDS 60', NOTIFY ENGINEER AND UNIT MANUFACTURER.

4. ROUTE CONDENSATE TO FLOOR DRAIN IN MECHANICAL ROOM. REFER TO PLUMBING DRAWINGS.

5. TRANSFER DUCT SHALL STOP ABOVE LAY OUT CONSTRUCTION PLAN. REFER TO PLUMBING DRAWINGS.

6. PROVIDE ESCUTCHEON AT LOCATIONS WHERE DUCT PENECHANTS BRIAN. REFER TO PLUMBING DRAWINGS.

7. ROUTE 3/8" OF DUCTWORK TO FLOOR DRAIN. REFER TO PLUMBING DRAWINGS.

8. 100 CFM (6" Ø) UP TO WELLNESS ROOM ON 3RD FLOOR. REFER TO PLUMBING DRAWINGS.

9. PROVIDE FLOOR DRAIN AND INSECT SCREEN AT END OF DUCT. REFER TO PLUMBING DRAWINGS.
DUCT TERMINATION SHALL BE AT 45° DEGREE ANGLE.

Provide insect screen at end of duct.

1. Exhaust duct shall follow slope of bleachers and exhaust high above walkways.

2. All exposed interior and exterior round exhaust duct shall be spiral galvanized.

GENERAL NOTES

1. Exhaust duct shall follow slope of bleachers and exhaust high above walkways.

2. All exposed interior and exterior round exhaust duct shall be spiral galvanized.
1. EXHAUST DUCT SHALL FOLLOW SLOPE OF BLEACHERS AND BE ANointed HIGH ABOVE WALKWAYS.

2. ALL EXPOSED INTERIOR AND EXTERIOR ROUND EXHAUST DUCTS SHALL BE SPIRAL GALVANIZED.

3. DASHED LINES AROUND EQUIPMENT INDICATE CLEARANCES. OBJECTS SHALL NOT BE WITHIN CLEARANCE LINES INDICATED.

4. DUCT TERMINATION SHALL BE AT 45 DEGREE ANGLE.

5. PROVIDE INSECT SCREEN AT END OF DUCT.

6. 100 CFM DUCTED UP FROM CLUBHOUSE UNIT ON 2ND FLOOR.

7. ROUTE CONDENSATE TO FLOOR DRAIN. REFER TO PLUMBING DRAWINGS.

8. DUCT UP FROM CLUBHOUSE RESTROOM EXHAUST.

9. INSULATE DUCT WITHIN CHASE WITH 1" ELASTOMERIC.

10. MOUNT AT APPROXIMATELY 1' A.F.F. COORDINATE LOCATIONS WITH KITCHEN EQUIPMENT.

11. REFRIGERANT LINE SHALL FOLLOW THE SLOPE OF THE BLEACHERS UP TO CONDENSING UNIT ON TOWER ROOF.

12. EXHAUST DUCT SHALL FOLLOW SLPPE OF BLEACHERS AND BE ANOINTED HIGH ABOVE WALKWAYS.

13. DASHED LINES AROUND EQUIPMENT INDICATE CLEARANCES. OBJECTS SHALL NOT BE WITHIN CLEARANCE LINES INDICATED.
DUCT TERMINATION SHALL BE AT 45 DEGREE ANGLE. PROVIDE INSECT SCREEN AT END OF DUCT. RETURN GRILLE IN WALL ABOVE COUNTER TOP. ROUTE CONDENSATE TO FLOOR DRAIN. REFER TO PLUMBING DRAWINGS. MOUNT AT APPROXIMATELY 1' - 3" A.F.F. COORDINATE LOCATIONS WITH KITCHEN EQUIPMENT.

1. EXHAUST DUCT SHALL FOLLOW SLOPE OF BLEACHERS AND EXHAUST HIGH ABOVE WALKWAYS.
2. ALL EXPOSED INTERIOR AND EXTERIOR ROUND EXHAUST DUCT SHALL BE SPIRAL GALVANIZED.
3. EXHAUST DUCT SHALL BE OPEN, COVERED.

HAC DUCTWORK PLAN LEVEL 3
1. All exposed interior and exterior round exhaust duct shall be spiral galvanized.
2. Dashed line around rooftop equipment indicates clearances. Objects on roof shall not be within clearance lines indicated.
3. Support refrigerant piping on roof every 6' and along both sides of elbows.
4. Refrigerant line installation shall take the most direct route possible. If length exceeds 60', notify engineer and unit manufacturer.
5. Refrigerant line shall follow the slope of the bleachers and drop in plumbing chase to 2nd floor.
6. Secure condensing unit to steel per seismic submittal recommendations.
7. Structural steel. Refer to structural drawings. SECURE CONDENSING UNIT TO STEEL PER SEISMIC SUBMITTAL RECOMMENDATIONS.
8. Approximate location of future unit. Leave space on structural steel for unit.