

| SPLIT SYSTEM HEAT PUMP FAN COIL SCHEDULE (AC UNITS) | | | | | | | | | | |
|---|----------------|----------------------|---------------------|------------------------|-------------|------------------|------------|-----|-----------------------|---------|
| UNIT NO | SERVES | NOMINAL COOLING TONS | NOMINAL HEATING MBH | CABINET TYPE | NOMINAL CFM | HEATING LOAD MBH | ELECTRICAL | | BASIS OF DESIGN | NOTES |
| | | | | | | | VOLTS/PH | MCA | | |
| AC-1-1 | VESTIBULE 101 | - | 15.0 | CEILING RECESSED 4-WAY | 280-350 | 9.2 | 208/1 | 1.0 | MITSUBISHI SLZ-KA15NA | 1,2,3 |
| AC-1-2 | ELEV MACH 102 | - | 6.0 | WALL MOUNTED | 145-406 | 1.0 | 208/1 | 1.0 | MITSUBISHI MSZ-GE06NA | 1,2,3,4 |
| AC-1-3 | ELEV FOYER 103 | - | 24.0 | CEILING RECESSED 4-WAY | 420-640 | 16.5 | 208/1 | 1.0 | MITSUBISHI PLA-A24BA4 | 1,2,3 |
| AC-2-1 | ELEV FOYER 201 | - | 18.0 | CEILING RECESSED 4-WAY | 420-640 | 13.6 | 208/1 | 1.0 | MITSUBISHI PLA-A18BA4 | 1,2,3 |
| AC-2-2 | ELEV LOBBY 202 | - | 24.0 | CEILING RECESSED 4-WAY | 420-640 | 19.3 | 208/1 | 1.0 | MITSUBISHI PLA-A24BA4 | 1,2,3 |
| AC-2-3 | STAIR S01 | - | 12.0 | WALL MOUNTED | 145-399 | 6.1 | 208/1 | 1.0 | MITSUBISHI MSZ-GE12NA | 1,2,3,4 |

NOTES: 1. PROVIDE WITH MANUFACTURER'S WIRED, WALL MOUNTED CONTROLLER. 2. HEATING AND COOLING UNIT. 3. POWERED BY OUTDOOR UNIT. 4. PROVIDE CONDENSATE PUMP.

| REFRIGERANT CONDENSING UNIT SCHEDULE | | | | | | | | | | | | | | |
|--------------------------------------|------------|--------------------------------|----------------------|---------------------|-----------------------------|--------------------|--------------------------------|--------------------------------|-------------|------------|-----|------|-------------------------|---------|
| UNIT NO | SERVES | TYPE | NOMINAL COOLING TONS | NOMINAL HEATING MBH | COOLING EFFICIENCY SEER/EER | HEATING COP @ 47°F | DESIGN COOLING OUTDOOR DB (°F) | DESIGN HEATING OUTDOOR DB (°F) | REFRIG TYPE | ELECTRICAL | | | BASIS OF DESIGN | NOTES |
| | | | | | | | | | | VOLTS/PH | MCA | MOCP | | |
| CU-1 | AC-1-1,2,3 | VARIABLE SPEED, INVERTER DRIVE | - | 54.0 | 18.9/12.0 | 3.75 | 92.0 | -3 | R-410A | 208/1 | 42 | - | MITSUBISHI MXZ-8C48NAHZ | 1,2,3,4 |
| CU-2 | AC-2-1,2,3 | VARIABLE SPEED, INVERTER DRIVE | - | 54.0 | 18.9/12.0 | 3.75 | 92.0 | -3 | R-410A | 208/1 | 42 | - | MITSUBISHI MXZ-8C48NAHZ | 1,2,3,4 |

NOTES: 1. PROVIDE PRE-MANUFACTURED, GALVANIZED STEEL, MODULAR EQUIPMENT SUPPORT FRAME WITH EQUIPMENT CLAMPS FOR INSTALLATION ON ROOF AT ELEVATION REQUIRED BY VRF SYSTEM MANUFACTURER. PROVIDE SUPPORT MANUFACTURER'S RUBBER PAD FOR INSTALLATION BELOW SUPPORT FOOT FOR VIBRATION REDUCTION. EQUIPMENT SUPPORT FRAME SHALL BE SIMILAR TO BIGFOOT CO. SUPPORTS. 2. PROVIDE WITH LOW AMBIENT CONTROL. 3. PROVIDE DRAIN PAN HEATER. 4. PROVIDE POWER TO BRANCH CONTROLLER FROM OUTDOOR UNIT.

| ENERGY RECOVERY UNIT SCHEDULE | | | | | | | | | | | | | | | |
|-------------------------------|------------|--------|-----------|-------|---------|-----------|-------|---------------|----------------|----------|-----------------|-------------|-----------------|------------------|-------|
| UNIT NO | SERVES | SUPPLY | | | EXHAUST | | | HEATING | | | ELECTRICAL DATA | | BASIS OF DESIGN | NOTES | |
| | | CFM | ESP IN WC | FAN W | CFM | ESP IN WC | FAN W | SUPPLY EAT °F | EXHAUST EAT °F | EAT RH % | LAT °F | VOLTS/PHASE | | | WATTS |
| HRV-1 | ELEV LOBBY | 75 | 0.54 | 65 | 75 | 0.4 | 65 | -3 | 38 | 70/35 | 29 | 120/1 | 170 | FANTECH FIT 120H | 1 |

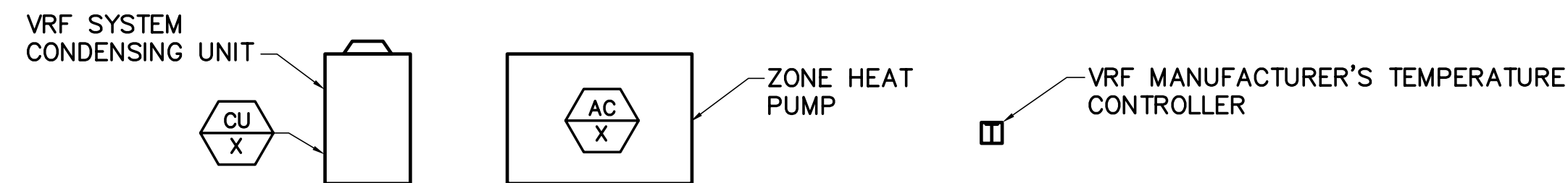
NOTE: 1. PROVIDE MOTORIZED DAMPERS FOR OUTSIDE AIR AND EXHAUST.

| DIFFUSER / REGISTER SCHEDULE | | | | | | | | |
|------------------------------|--------------|--------------|-------------------------|--------------------|-----------|------|-----------------|-------|
| UNIT NO | FACE SIZE IN | NECK SIZE IN | MAX PRESSURE DROP IN WC | MAX NOISE CRITERIA | CFM RANGE | TYPE | BASIS OF DESIGN | NOTES |
| | | | | | | | | |

NOTES: 1. PROVIDE TRANSITION FROM DUCTWORK TO GRILLE. 2. 24x24 LAY-IN FOR T-BAR CEILING. 3. STEEL CONSTRUCTION.

| LOUVER SCHEDULE | | | | | | | | | |
|-----------------|----------|-------|-----|------------|--------|-------|-------------------------|-----------------|-------|
| UNIT NO | SERVES | TYPE | CFM | DIMENSIONS | | | MIN FREE AREA SQUARE FT | BASIS OF DESIGN | NOTES |
| | | | | LENGTH | HEIGHT | DEPTH | | | |
| L-1 | HRV-1 OA | FIXED | 75 | 12" | 7-3/4" | 4" | | RUSKIN BV100 | 1,2,3 |
| L-2 | HRV-1 EA | FIXED | 75 | 12" | 7-3/4" | 4" | | RUSKIN BV100 | 1,2,3 |

NOTES: 1. PROVIDE WITH BIRDSCREEN. 2. LOUVER SHALL BE DRAINABLE. 3. PROVIDE FINISH IN CUSTOM COLOR SELECTED BY ARCHITECT.

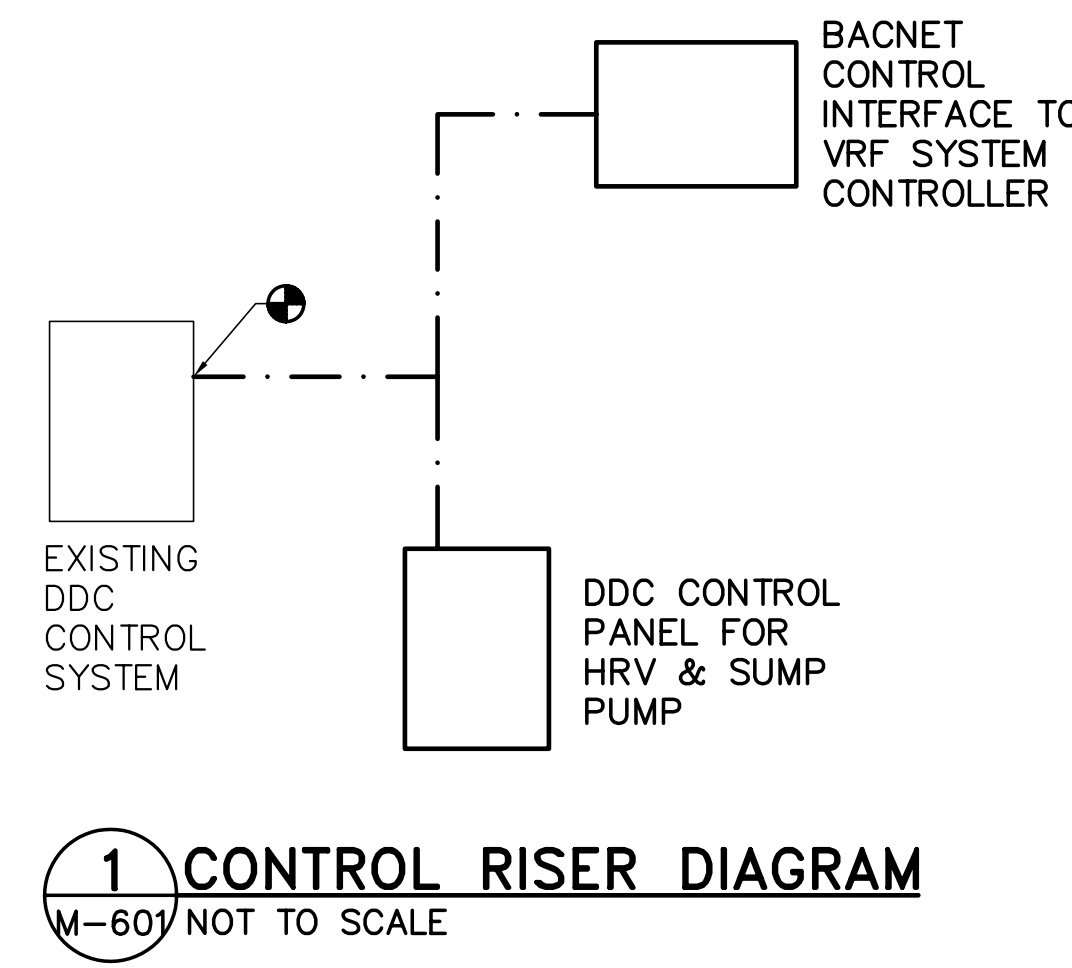


| VRF SYSTEM POINTS LIST | | | | | | | | | | |
|--------------------------------|---------|--------------|---------------|--------------|---------------|-------|-----------------|-----------------|-----------|-------|
| SYSTEM POINT DESCRIPTION | GRAPHIC | ANALOG INPUT | ANALOG OUTPUT | BINARY INPUT | BINARY OUTPUT | ALARM | ANALOG VARIABLE | BINARY VARIABLE | TREND LOG | NOTES |
| | | | | | | | | | | |
| ZONE SPACE TEMPERATURE | x | x | | | | | | | | 1,2,3 |
| HEAT PUMP FAN SPEED | x | x | | | | | | | | 2,4 |
| HEAT PUMP ALARM/FAULT | x | | | x | | | | | | 2,3,6 |
| HEAT PUMP STATUS (ON/OFF) | x | | | x | | | | | | 2,3 |
| CU ALARM/FAULT | x | | | x | | | | | | 3,6,8 |
| CU STATUS (ON/OFF) | x | | | x | | | | | | 3,8 |
| CONDENSATE PUMP HI-LEVEL ALARM | x | | | x | | | | | | 5,7 |
| VRF SYSTEM ENABLE | x | | | | | | | | | |

NOTES: 1. GENERATE ALARM IF SPACE TEMPERATURE IS OR LOWER THAN 3°F BELOW HEATING SETPOINT FOR MORE THAN 10 MINUTES (ADJUSTABLE). 2. POINT TYPICAL FOR EACH ZONE. 3. READ DATA FROM THE VRF CONTROL SYSTEM THROUGH THE BACNET GATEWAY. 4. PROVIDE DATA TO THE VRF CONTROL SYSTEM THROUGH THE BACNET GATEWAY. 5. PROVIDE FOR TWO UNITS. 6. GENERATE ALARM IF VRF SYSTEM CONTROLLER INDICATES AN ALARM CONDITION. 7. GENERATE ALARM IF CONDENSATE PUMP HI-LEVEL ALARM SWITCH IS ACTIVATED. 8. POINT TYPICAL FOR EACH CONDENSING UNIT.

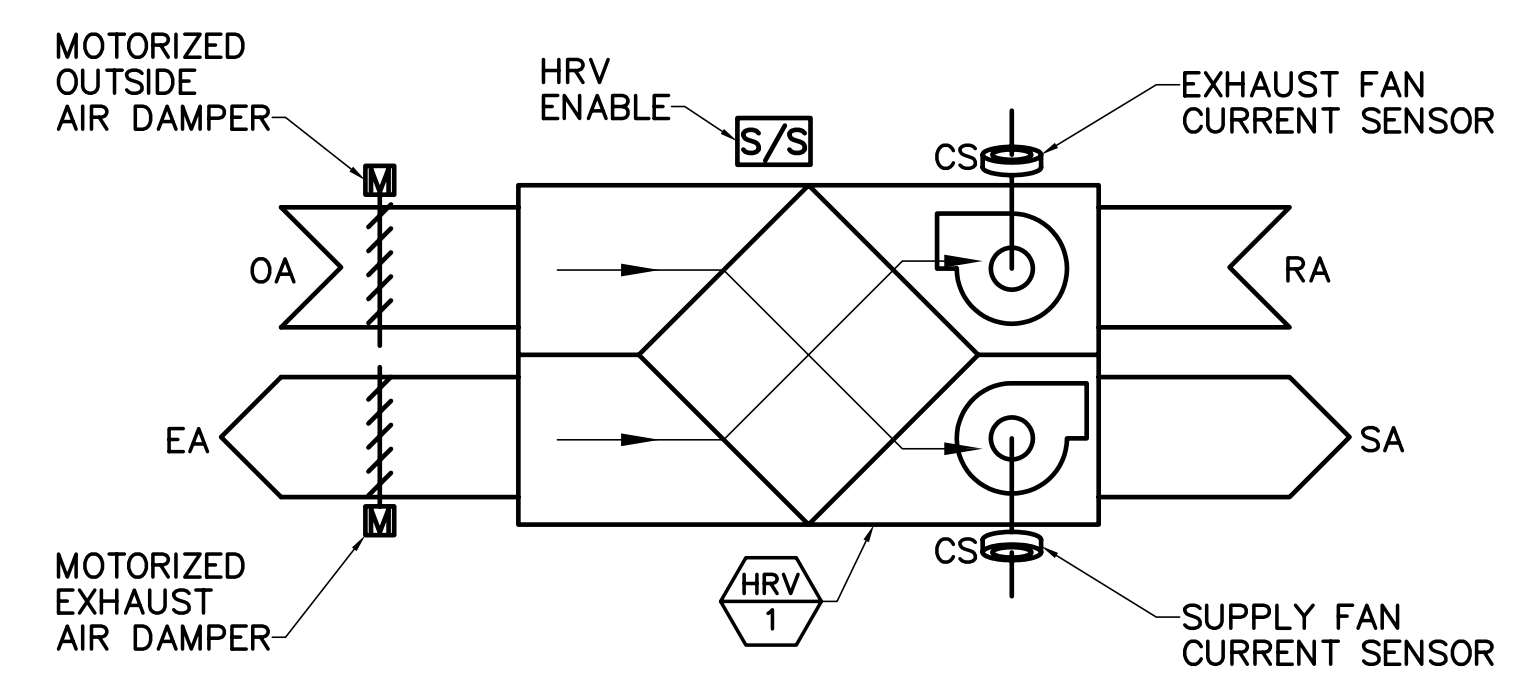
3 VRF SYSTEM CONTROL DIAGRAM

M-601 NOT TO SCALE



1 CONTROL RISER DIAGRAM

M-601 NOT TO SCALE



| HRV-1 POINTS LIST | | | | | | | | | | |
|--------------------------|---------|--------------|---------------|--------------|---------------|-------|-----------------|-----------------|-----------|-------|
| SYSTEM POINT DESCRIPTION | GRAPHIC | ANALOG INPUT | ANALOG OUTPUT | BINARY INPUT | BINARY OUTPUT | ALARM | ANALOG VARIABLE | BINARY VARIABLE | TREND LOG | NOTES |
| | | | | | | | | | | |
| SUPPLY FAN STATUS | x | | | x | | | | | | 1 |
| EXHAUST FAN STATUS | x | | | x | | | | | | 1 |
| OUTSIDE AIR DAMPER | x | | | | x | | | | | |
| EXHAUST AIR DAMPER | x | | | | x | | | | | |

NOTE: 1. GENERATE AN ALARM IF FAN FAILS TO SHOW PROOF OF OPERATION.

SEQUENCE OF OPERATION - HRV UNIT
 HRV SYSTEM OCCUPIED MODE:
 THE HRV UNIT SHALL RUN VIA THE HRV UNIT MANUFACTURER'S CONTROLS.

HRV SYSTEM OCCUPANCY:
 THE HRV SYSTEM OCCUPANCY MODE SHALL BE DETERMINED BY A DEDICATED, USER ADJUSTABLE 7 DAY / 24 HOUR SCHEDULE LOCATED IN THE DDC SYSTEM. THE SCHEDULE SHALL BE ADJUSTABLE AND ACCESSIBLE TO THE BUILDING OPERATOR THROUGH THE GUI.

OCCUPIED / UNOCCUPIED MODES:
 DURING THE OCCUPIED MODE THE HRV UNIT SHALL RUN CONTINUOUSLY AND THE OUTSIDE AND EXHAUST AIR DAMPERS SHALL REMAIN OPEN. DURING THE UNOCCUPIED MODE THE UNIT SHALL BE OFF AND THE OUTSIDE AND EXHAUST AIR DAMPER SHALL REMAIN CLOSED.

2 HRV-1 UNIT CONTROL DIAGRAM

M-601 NOT TO SCALE

| SUMP PUMP POINTS LIST | | | | | | | | | | |
|--------------------------|---------|--------------|---------------|--------------|---------------|-------|-----------------|-----------------|-----------|-------|
| SYSTEM POINT DESCRIPTION | GRAPHIC | ANALOG INPUT | ANALOG OUTPUT | BINARY INPUT | BINARY OUTPUT | ALARM | ANALOG VARIABLE | BINARY VARIABLE | TREND LOG | NOTES |
| | | | | | | | | | | |

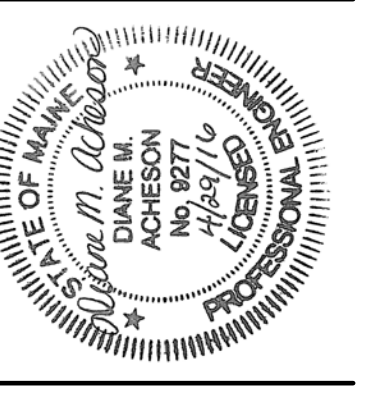
NOTES: 1. GENERATE ALARM IF SUMP PUMP CONTROLLER INDICATES AN ALARM CONDITION.

4 SUMP PUMP CONTROL DIAGRAM

M-601 NOT TO SCALE

GENERAL NOTE

NOTE ON BASIS OF DESIGN
 PRODUCTS OF OTHER MANUFACTURERS ARE ACCEPTABLE IF THEY MEET THE OPERATIONAL REQUIREMENTS INDICATED. ANY ADJUSTMENTS TO DUCTING, PIPING, WIRING OR CONFIGURATION DUE TO THE SELECTION OF A MANUFACTURER OTHER THAN THAT LISTED AS THE BASIS OF DESIGN WILL BE ACCOMPLISHED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.



DESIGNED BY: DMA
 DRAWN BY: RDA
 CHECKED BY: MSA
 PROJECT: 21602.06

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MECHANICAL SCHEDULES AND CONTROL DIAGRAMS

SCALE: AS NOTED
 DATE: 04-29-2016
 DWG.: M-601
 SHEET: 33 OF 40