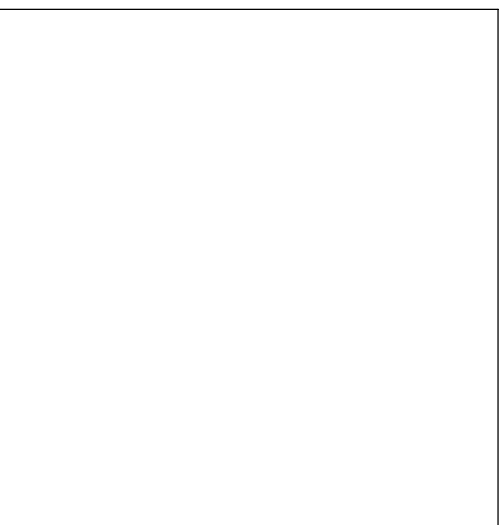


F
A
E
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C
B
A

DOUBLE LINE DUCTWORK SYMBOLS	
—SV— —HWS— —HWR— —CHS— —CHR— —HCS— —HCR— —B— —BR— —D— —C— —CR— —MU— —HG— —RS— —RL— —CP— —BFW— —BD— —FOS— —FOR— —FOV— —RHS— —RHR— —LPS— —LPC— —PSC— ST DS P.R.S STEAM VENT HEATING-HOT WATER SUPPLY HEATING-HOT WATER RETURN CHILLED WATER SUPPLY CHILLED WATER RETURN HOT/CHILLED WATER SUPPLY HOT/CHILLED WATER RETURN BRINE SUPPLY BRINE RETURN CONDENSATE DRAIN COLD CONDENSER WATER HOT CONDENSER WATER MAKE-UP WATER REFRIGERANT HOT GAS REFRIGERANT SUCTION REFRIGERANT LIQUID CONDENSATE PUMP DISCHARGE BOILER FEEDWATER BOILER BLOW DOWN FUEL-OIL SUPPLY FUEL-OIL RETURN FUEL-OIL VENT REHEAT HOT WATER SUPPLY REHEAT HOT WATER RETURN LOW PRESSURE STEAM LOW PRESSURE CONDENSATE PUMPED STEAM CONDENSATE STEAM TRAP DRIP STATION PRESSURE REDUCING STATION	PA PG

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PROJECT

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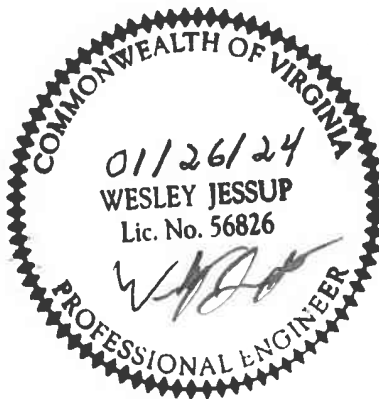
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REGISTRATION



ISSUE/REVISION

NO.	DATE	DESCRIPTION

KEY PLAN

PROJECT NUMBER

60707113

SHEET TITLE

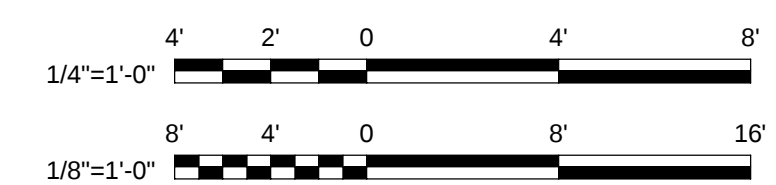
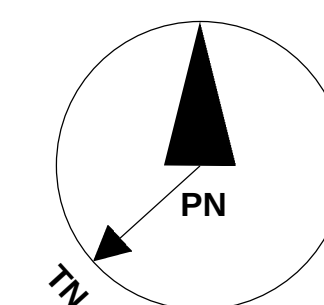
MECHANICAL LEGEND AND
GENERAL NOTES

SHEET NUMBER

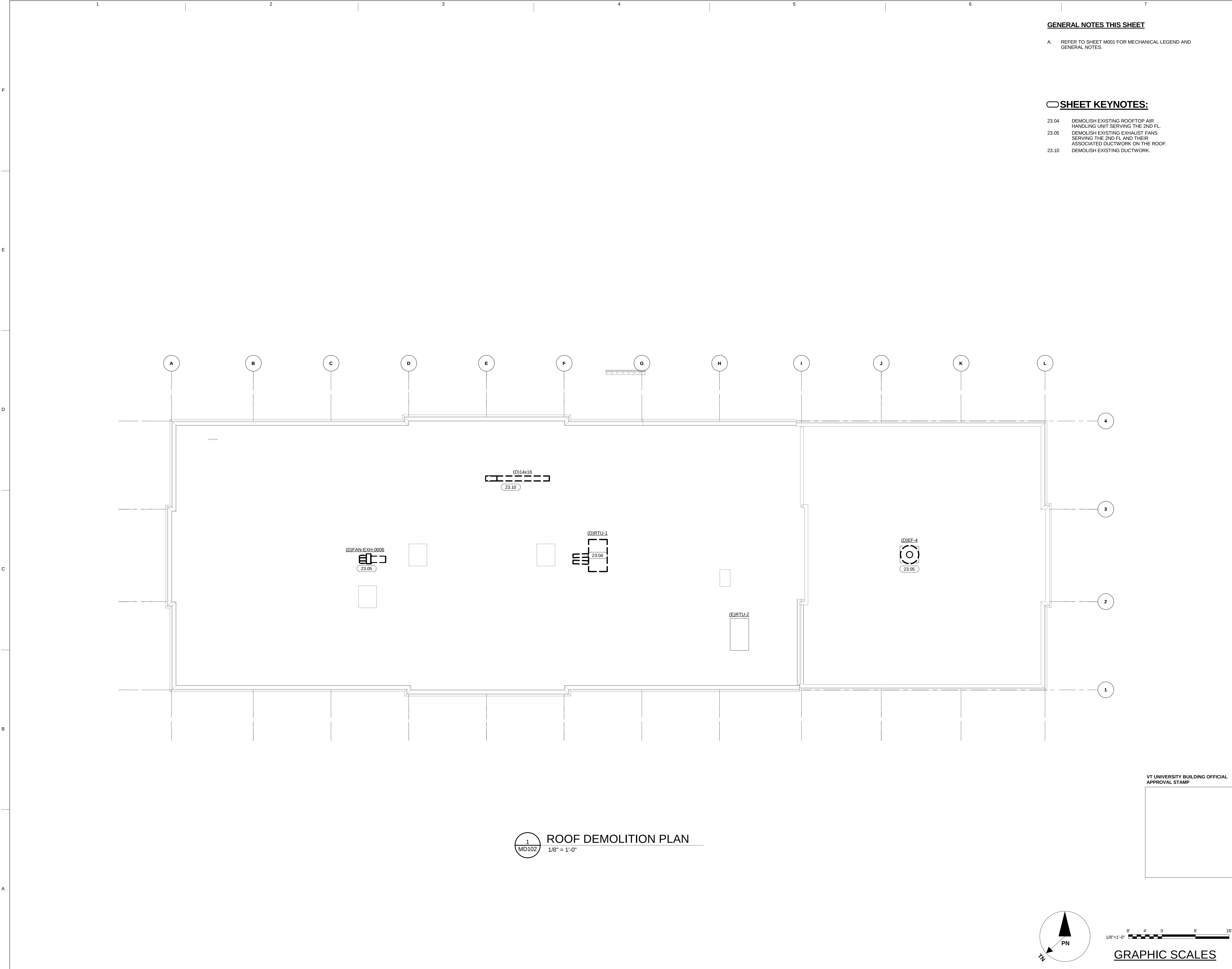
M-001

A. REFER TO SHEET M001 FOR MECHANICAL LEGEND AND GENERAL NOTES.

23.01	DEMOLISH EXISTING FAN COIL UNITS, AIR DEVICES, DUCT WORK, CONDENSATE DRAIN PIPING, AND TEMPERATURE CONTROLS ON THE SECOND FLOOR. CLIMATE CONTROL HIGH RUNNOUTS AS INDICATED. DEMOLISH FCU CHW RUNNOUTS AND PORTIONS OF CHW MAINS AS INDICATED. RELOCATION RTU-2 EXISTING THERMOSTAT, REFER TO MP101. HWY AND STEAM MAINS TO REMAIN IN PLACE AS INDICATED.
23.02	DEMOLISH EXISTING TOILET EXHAUST FANS AND ITS ASSOCIATED DUCTWORK.
23.03	DEMOLISH EXISTING LPS AND LPC FROM LAUNDRY EQUIPMENT BACK TO MAIN.



GRAPHIC SCALES



GENERAL NOTES THIS SHEET

A. REFER TO SHEET M001 FOR MECHANICAL LEGEND AND GENERAL NOTES.

SHEET KEYNOTES:

- 23.04 DEMOLISH EXISTING ROOFTOP AIR HANDLING UNIT SERVING THE 2ND FL.
- 23.05 DEMOLISH EXISTING EXHAUST FANS SERVING THE 2ND FL AND THEIR ASSOCIATED DUCTWORK ON THE ROOF.
- 23.10 DEMOLISH EXISTING DUCTWORK.



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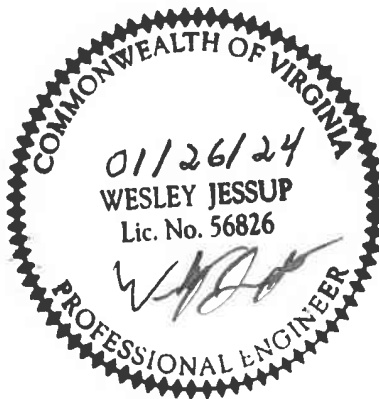
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1	01/26/2024	FINAL WORKING DRAWINGS
U/R	DATE	DESCRIPTION

KEY PLAN

PROJECT NUMBER

60707113

SHEET TITLE

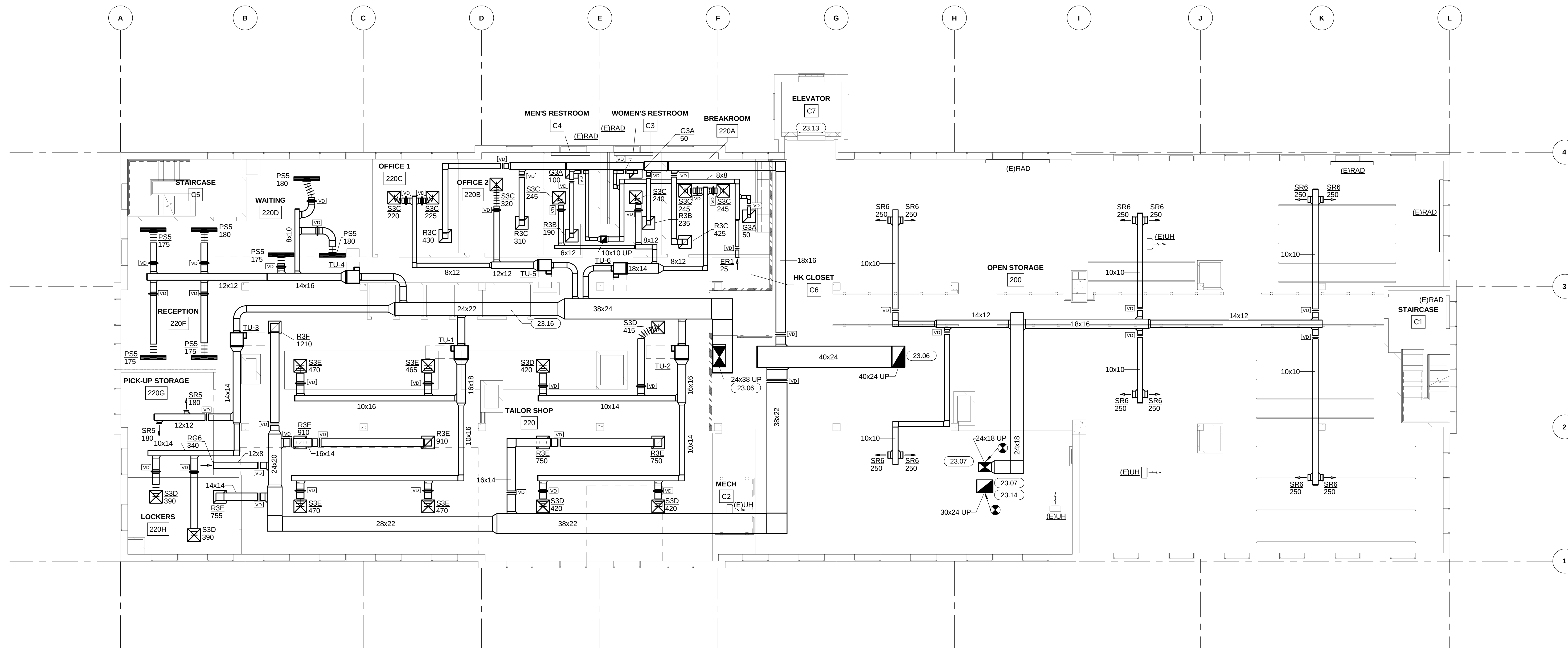
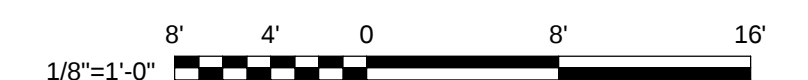
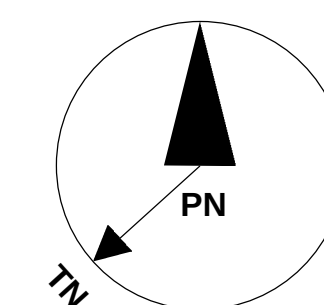
MECHANICAL DEMOLITION PLAN -
ROOF

SHEET NUMBER

MD102

A. REFER TO SHEET M001 FOR MECHANICAL LEGEND AND GENERAL NOTES.

23.06	ROUTE SUPPLY AND RETURN DUCTWORK UP THROUGH EXISTING OPENING TO ROOFTOP AIR HANDLING UNIT RTU-1.
23.07	ROUTE SUPPLY AND RETURN DUCTWORK UP THROUGH EXISTING OPENING TO EXISTING ROOFTOP AIR HANDLING UNIT RTU-2.
23.13	LOCATE UH-2 IN ELEVATOR PIT AND UH-3 IN ELEVATOR ENTRANCE VESTIBLE. REFER TO FIRST FLOOR PARTIAL PLAN MH1022. REFER TO ELEVATOR SPECIFICATION FOR ELEVATOR SHAFT VENTILATION REQUIREMENTS.
23.14	PROVIDE OPEN END OF RETURN DUCT WITH WIRE MESH SCREEN.
23.16	LOCATE RTU-1 DUCT DIFFERENTIAL PRESSURE SENSOR.


$$1/8" = 1'-0"$$


GRAPHIC SCALES

A. REFER TO SHEET M001 FOR MECHANICAL LEGEND AND GENERAL NOTES.

23.12 PROVIDE ROOFTOP UNIT WITH MANUFACTURER'S INSULATED PIPING CABINET. REFER TO ARCH DRAWINGS FOR FLASHING AND CABINET SCUPPER DRAIN DETAIL. PROVIDE ROOF PIPE PENETRATIONS WITH PIPE CURB. REFER TO M-501 DETAIL. LOCATE RTU-1 VFD AND UH-1 THERMOSTAT INSIDE OF CABINET.

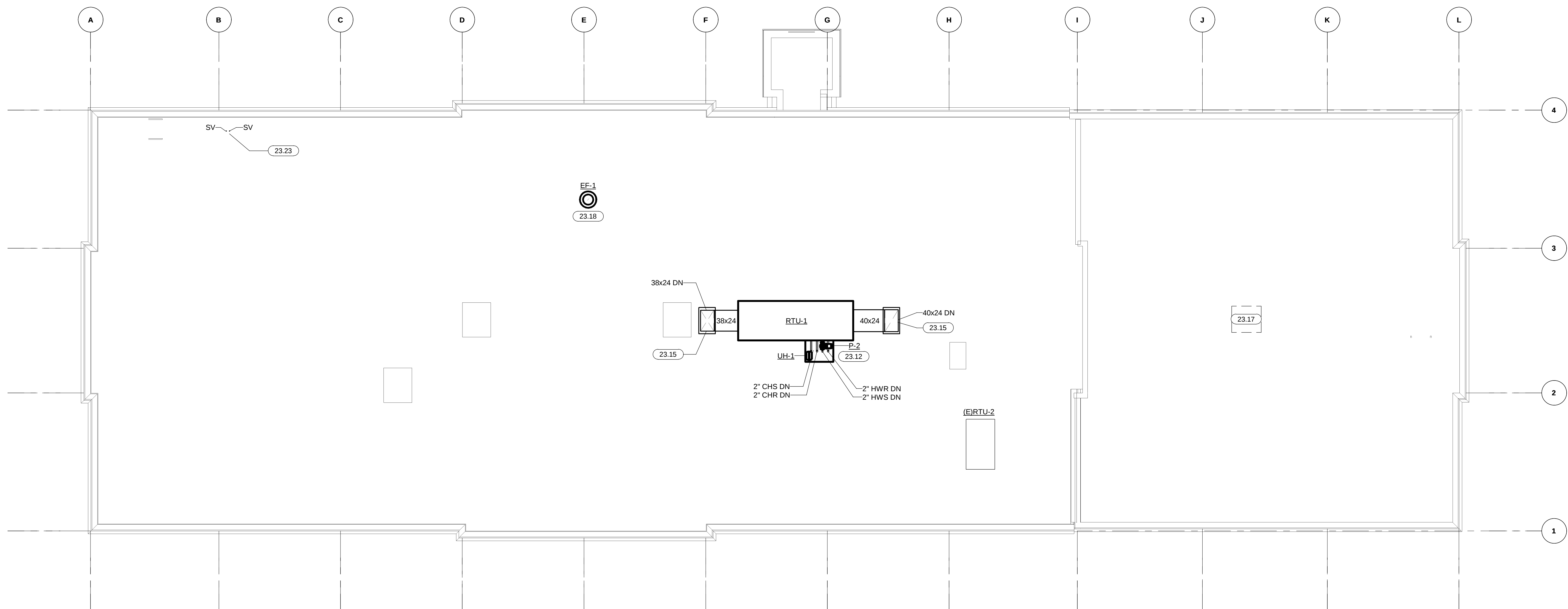
23.15 ROUTE DUCTWORK DOWN TO 2ND FLOOR THROUGH EXISTING OPENING.

23.17 PROVIDE EXISTING PENETRATION WITH INSULATED GALVANIZED STEEL CAP.

23.18 LOCATE FAN OVER EXISTING OPENING AND ROUTE DUCTWORK THROUGH EXISTING OPENING TO 2ND FLOOR.

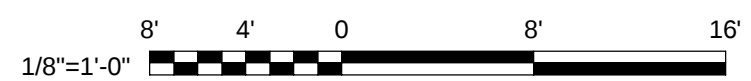
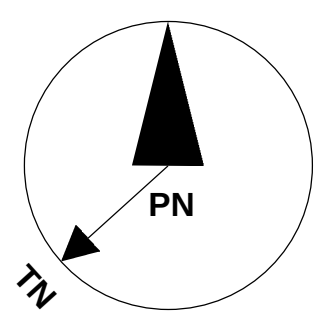
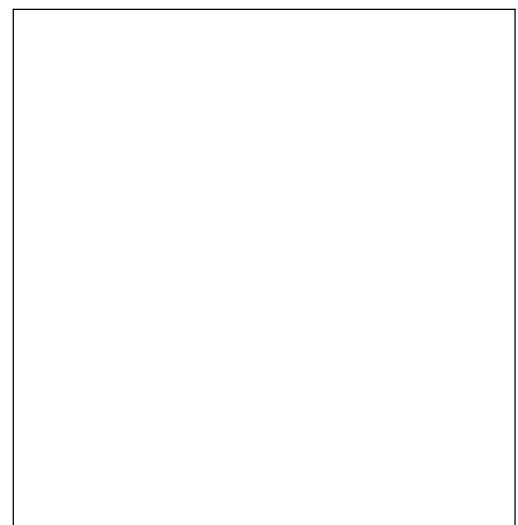
23.23 DISCHARGE STEAM VENT WITH WEATHER HOOD. PROVIDE WATER-TIGHT PENETRATION WITH WARRANTY.

RTU-1 TO BE PROVIDED BY OWNER, INSTALLED BY CONTRACTOR. ALL NECESSARY CONNECTIONS TO RTU-1 TO BE PROVIDED BY CONTRACTOR.

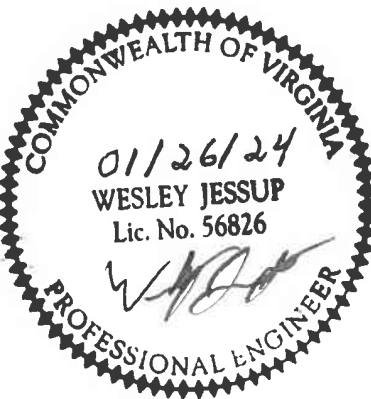


1
MH102

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GRAPHIC SCALES



NO.	DATE	DESCRIPTION
1	01/26/2024	FINAL WORKING DRAWINGS

GENERAL NOTES THIS SHEET

- A. REFER TO SHEET M001 FOR MECHANICAL LEGEND AND GENERAL NOTES.

SHEET KEYNOTES:

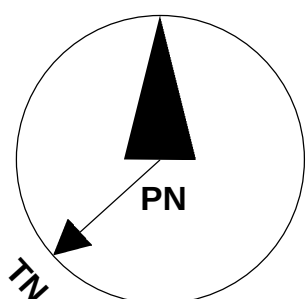
- 23.09 RELOCATE EXISTING RTU-2 THERMOSTAT.
23.20 CONNECT LPS TO STEAM EQUIPMENT AND
ROUTE LPC DN TO GROUND FLOOR LPC
RETURN SYSTEM.
23.21 CONNECT STEAM VENTS TO STEAM
PRESSURE SAFETY VALVES, REFER TO
DETAIL M-500/13.
23.22 ROUTE STEAM VENTS UP TO ROOF, REFER
TO MH102.

2 FIRST FLOOR PARTIAL PLAN - PIPING

1/4" = 1'-0"

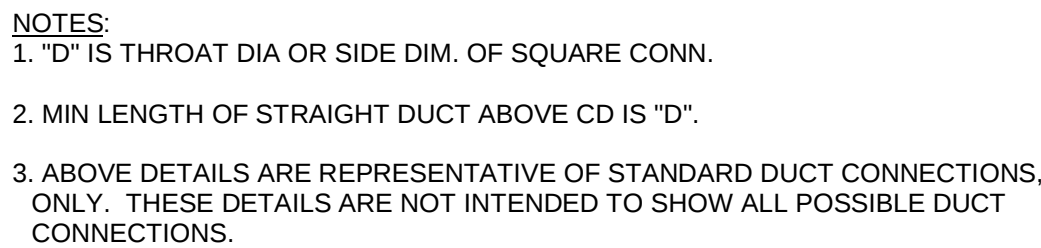
1 SECOND FLOOR PLAN - PIPING

1/8" = 1'-0"

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GRAPHIC SCALES

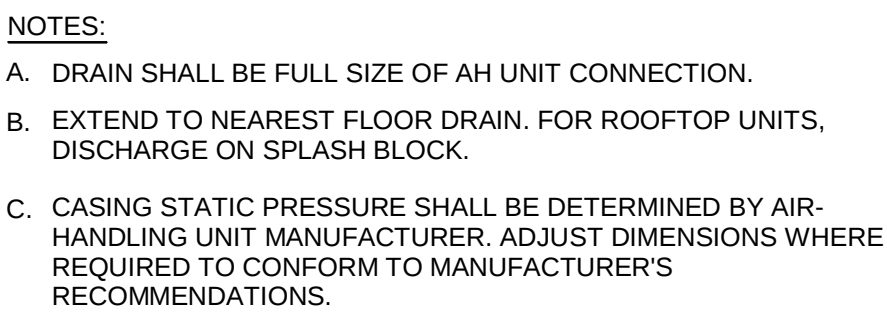
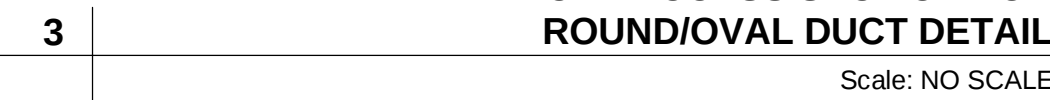
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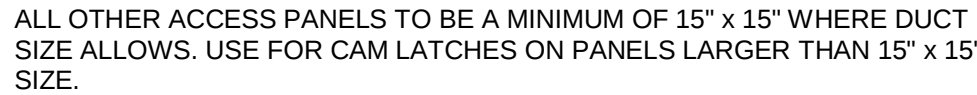
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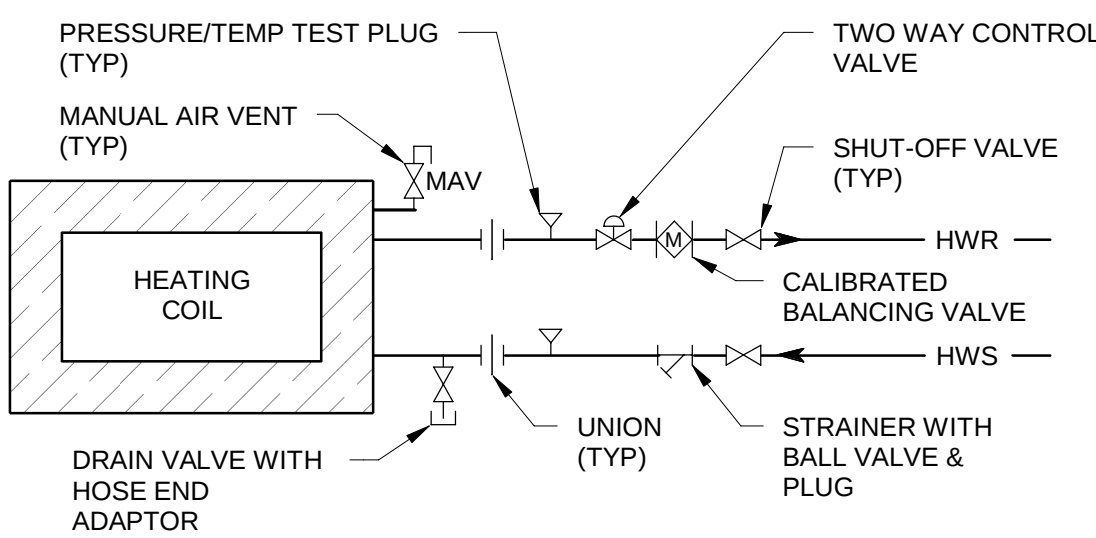
ROUND/OVAL DUCT DETAIL



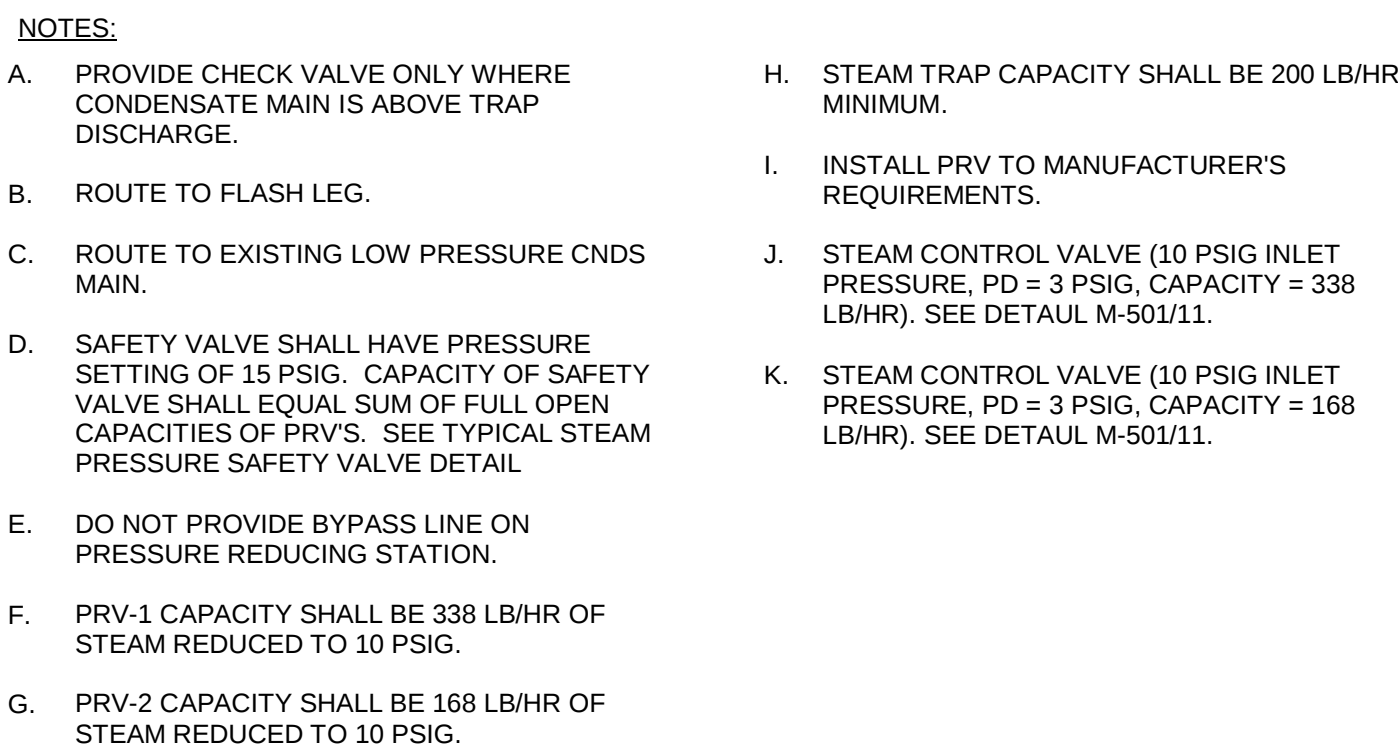
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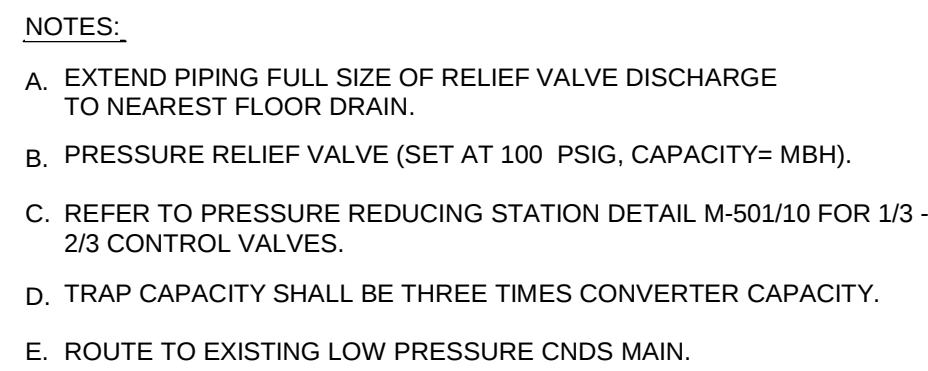
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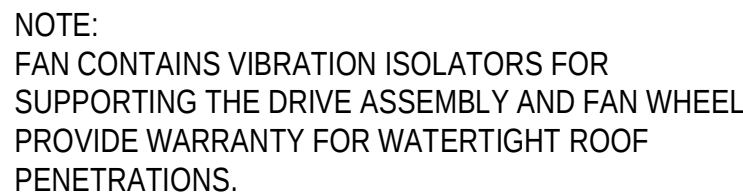
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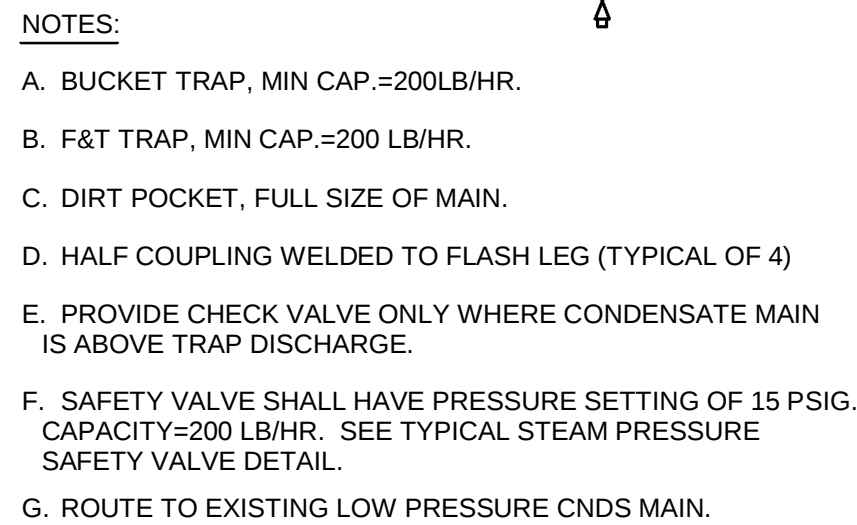


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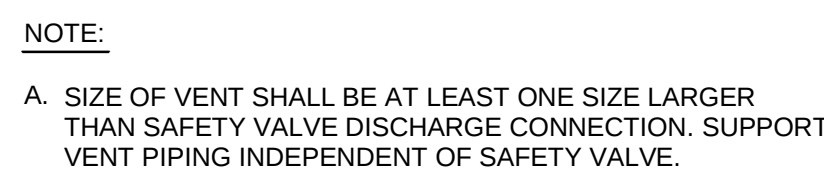


10	REDUCING STATION
	Scale: NO SCALE

Scale: NO SCALE



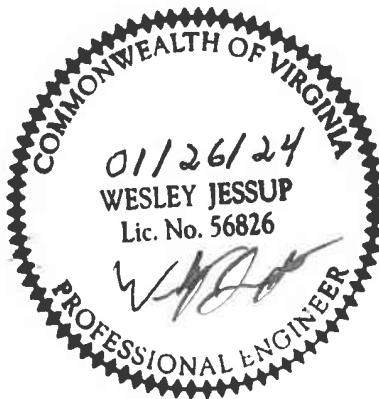
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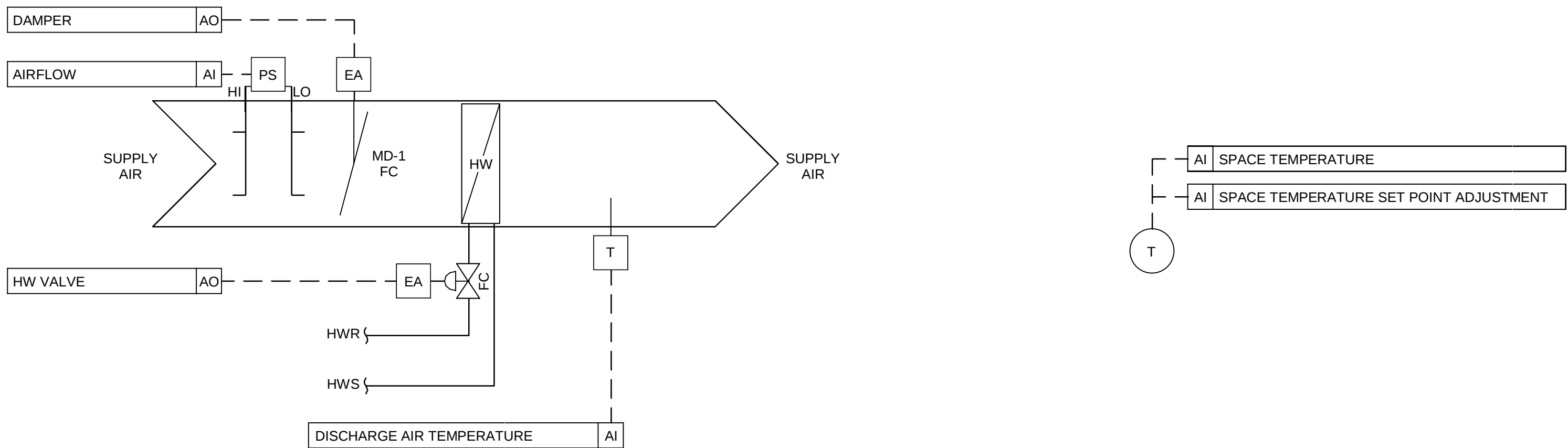
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RTU-1 TO BE PROVIDED BY OWNER, INSTALLED BY CONTRACTOR. ALL NECESSARY CONNECTIONS TO RTU-1 TO BE PROVIDED BY CONTRACTOR.

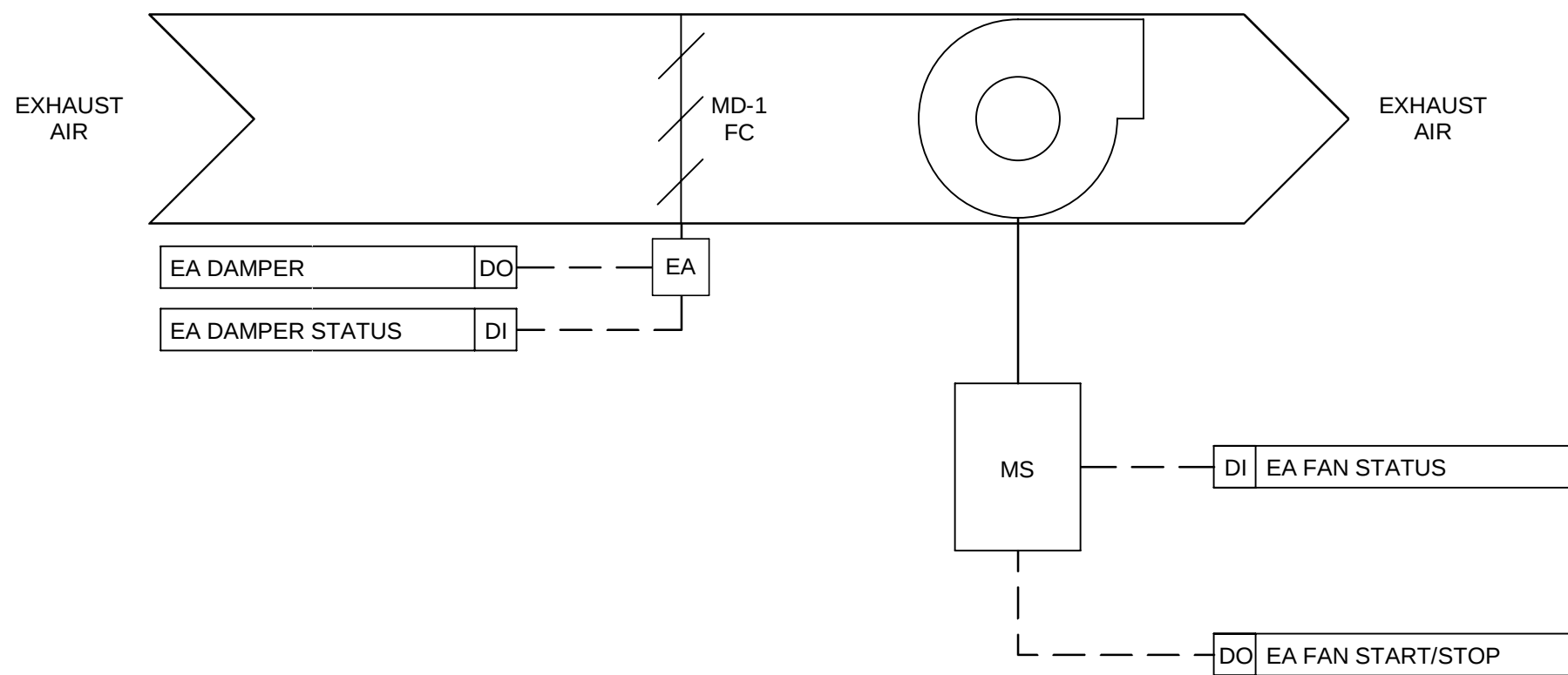


NO.	DATE	DESCRIPTION
1	01/26/2024	FINAL WORKING DRAWINGS



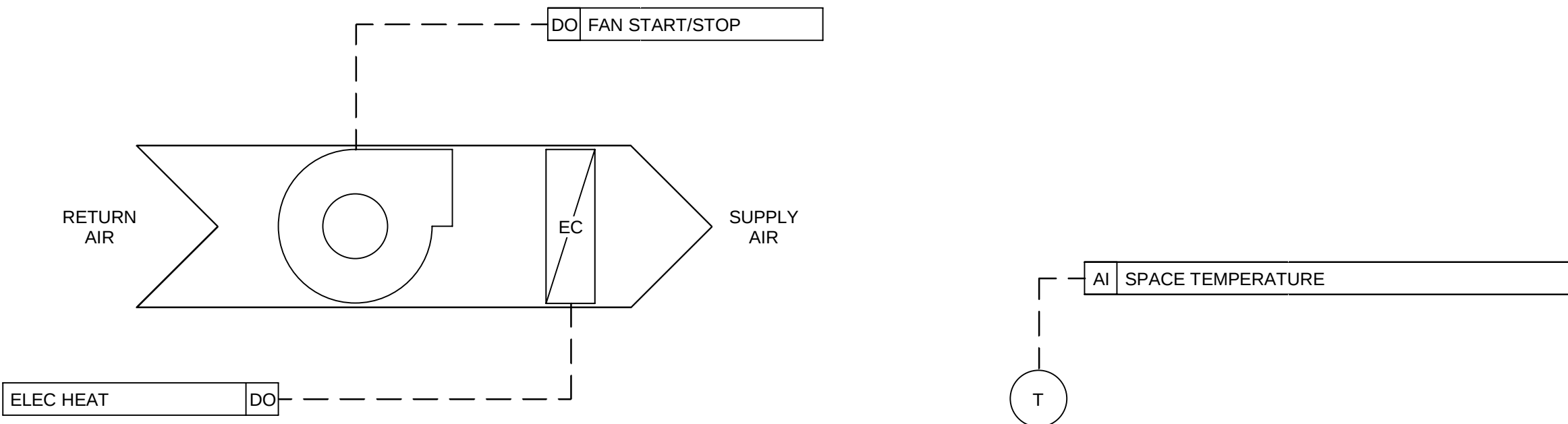
TYPICAL VAV TERMINAL UNIT WITH HOT WATER REHEAT AND PERIMETER RADIATION (TU-1) SEQUENCE OF OPERATION
A. GENERAL: PRESSURE INDEPENDENT THROUGH ITS OPERATING RANGE. CONTROL TO MAINTAIN ZONE TEMPERATURE.
B. SCHEDULING: OPERATE OCCUPIED OR UNOCCUPIED MODE BASED ON TIME OF DAY SCHEDULING. DURING OCCUPIED MODE OR MORNING WARM-UP MODE, MAINTAIN OCCUPIED SPACE TEMPERATURE SET POINT OF 72°F AND OCCUPIED MINIMUM AIRFLOW SET POINT. DURING UNOCCUPIED MODE, MAINTAIN UNOCCUPIED SPACE TEMPERATURE HEATING SET POINT OF 60°F, UNOCCUPIED SPACE TEMPERATURE COOLING SET POINT OF 80°F, AND UNOCCUPIED MINIMUM AIRFLOW SET POINT.
1. SPACE TEMPERATURE SET POINT ADJUSTMENT: ALLOW SET POINT ADJUSTMENT AT SPACE TEMPERATURE SENSOR AND LIMIT ADJUSTMENT TO ± 3°F.
2. UNOCCUPIED MODE OVERRIDE PUSH BUTTON: UPON ACTIVATION OF THE SPACE SENSOR UNOCCUPIED MODE OVERRIDE PUSH BUTTON, OPERATE OCCUPIED AND DISABLE DEMAND CONTROLLED VENTILATION FOR 2 HOURS.
3. DEMAND CONTROLLED VENTILATION: IN OCCUPIED MODE, RESET MINIMUM AIRFLOW SET POINT BASED ON ZONE OCCUPANCY. IF SPACE OCCUPANCY SENSOR(S) HAVE NOT SENSED ACTIVITY IN THE ZONE FOR 30 MINUTES, RESET MINIMUM AIRFLOW TO MINIMUM UNOCCUPIED AIRFLOW SET POINT. UPON ACTIVATION OF ANY SPACE OCCUPANCY SENSOR, RESET MINIMUM AIRFLOW TO MINIMUM OCCUPIED AIRFLOW SET POINT.
C. SPACE TEMPERATURE CONTROL: ON A RISE IN SPACE TEMPERATURE ABOVE SET POINT, RESET AIRFLOW SET POINT TOWARDS MAXIMUM AIRFLOW SET POINT. ON A FALL IN SPACE TEMPERATURE BELOW SET POINT, RESET AIRFLOW SET POINT TOWARDS MINIMUM AIRFLOW SET POINT. ON A FURTHER FALL IN SPACE TEMPERATURE, RESET AIRFLOW SET POINT TO MINIMUM HEATING AIRFLOW SET POINT AND MODULATE THE HOT WATER CONTROL VALVE OPEN. ON A RISE IN SPACE TEMPERATURE, REVERSE THE SEQUENCE. MAINTAIN A 5°F DEAD BAND BETWEEN HEATING AND COOLING MODES.
D. AIRFLOW CONTROL: ON A FALL IN AIRFLOW BELOW SET POINT, MODULATE THE DAMPER OPEN TO MAINTAIN AIRFLOW AT SET POINT. ON A RISE IN AIRFLOW ABOVE SET POINT, REVERSE THE SEQUENCE.

1 SUPPLY TERMINAL UNIT - VARIABLE VOLUME
Scale: NO SCALE



TYPICAL VARIABLE AIR VOLUME EXHAUST FAN (EF-1) SEQUENCE OF OPERATION
A. SCHEDULING: OPERATE OCCUPIED OR UNOCCUPIED BASED ON TIME OF DAY SCHEDULING.
B. EXHAUST FAN START/STOP CONTROL:
1. IN OCCUPIED MODE, OPEN THE EXHAUST FAN ISOLATION DAMPER AND ENERGIZE THE EXHAUST FAN TO RUN CONTINUOUSLY.
2. IN UNOCCUPIED MODE, DEENERGIZE THE EXHAUST FAN AND CLOSE THE EXHAUST AIR DAMPER.

2 EXHAUST FAN
Scale: NONE



TYPICAL ELECTRIC UNIT HEATER (UH-1, UH-2, UH-3) SEQUENCE OF OPERATION
A. GENERAL: CONTROL TO MAINTAIN ZONE TEMPERATURE.
B. SCHEDULING: OPERATE THE UNIT HEATER CONTINUOUSLY.
C. SUPPLY FAN START/STOP CONTROL:
1. IN OCCUPIED MODE, OPERATE THE SUPPLY FAN CONTINUOUSLY.
D. SPACE TEMPERATURE CONTROL: ON A FALL IN SPACE TEMPERATURE BELOW SET POINT OF 50°F, ENERGIZE THE FAN AND ITS ELECTRIC HEAT. ON A RISE IN SPACE TEMPERATURE ABOVE SET POINT, REVERSE THE SEQUENCE.

3 ELECTRIC UNIT HEATER
Scale: NO SCALE

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