

**GENERAL NOTES:**

1. PROVIDE ROOM PRESSURE CONTROLLER WITH BACNET CONNECTIVITY TO MONITOR AND MAINTAIN ROOM TEMPERATURE AND PRESSURE AS INDICATED. PROVIDE ALL NECESSARY SENSORS, ALARMS, RELAYS, CONTACTS, AND MOUNTING HARDWARE FOR A COMPLETE INSTALLATION (EQUAL TO TRIATEK FMS-1650).
2. EXISTING DEDICATED EXHAUST FAN WITH VARIABLE SPEED DRIVE (EF-78) SHALL REMAIN AND BE RE-USED FOR THIS APPLICATION. EXHAUST FAN STATIC PRESSURE CONTROLS SHALL BE RE-BALANCED TO ACHIEVE AIR QUANTITIES SPECIFIED ON PLANS FOR ALL MODES OF OPERATION.
3. PRESSURE MAINTENANCE SHALL BE ACCOMPLISHED BY HOLDING THE EXHAUST AIR QUANTITY CONSTANT AT 12 AIR CHANGES PER HOUR AND MODULATING THE SUPPLY AIR QUANTITY THROUGH THE VAV TERMINAL UNIT.
4. PROVIDE THROUGH THE WALL DIFFERENTIAL PRESSURE SENSING BETWEEN PATIENT ROOM AND CORRIDOR.
5. PROVIDE A MAGNETIC CONTACT AT THE ENTRY DOOR TO THE ROOM TO SUSPEND MODULATION OF SUPPLY AND EXHAUST AIR TERMINAL UNITS WHEN THE DOOR IS OPEN AND TO PREVENT NUISANCE ALARMS UNTIL SUCH TIME THAT ROOM PRESSURE MEASUREMENT HAS STABILIZED.

**SEQUENCE OF OPERATION:**

**NORMAL MODE:**

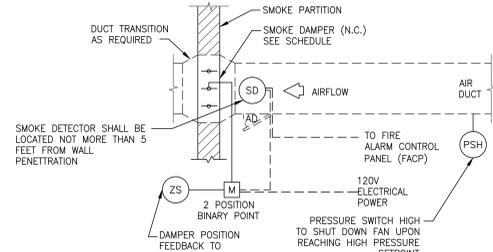
1. ISOLATION ROOM CONTROL PANEL SHALL MONITOR ROOM PRESSURE AND CONTROL DEVICES AS REQUIRED TO MAINTAIN DIFFERENTIAL PRESSURE SETTINGS.
2. IN NORMAL MODE, AS INDEXED MANUALLY THROUGH THE ROOM TEMPERATURE/PRESSURE CONTROLLER, VAV SUPPLY AIR TERMINAL UNIT SHALL MODULATE BETWEEN MINIMUM (150 CFM, ADJUSTABLE) AND MAXIMUM (250 CFM, ADJUSTABLE) AIRFLOW AS REQUIRED TO MAINTAIN ROOM TEMPERATURE SETPOINT (75°F COOLING, 70°F HEATING, ADJUSTABLE) IN ACCORDANCE WITH THE ASSOCIATED ROOM THERMOSTAT.
3. PRESSURE INDEPENDENT EXHAUST AIR TERMINAL UNIT SHALL MODULATE IN UNISON WITH SUPPLY AIR TERMINAL UNIT TO ALLOW "SUPPLY AIR QUANTITY PLUS 50 CFM (ADJUSTABLE)" EXHAUST FROM PATIENT ROOM (3/5 TOTAL EXHAUST) AND ASSOCIATED TOILET ROOM (2/5 TOTAL EXHAUST).

**ISOLATION MODE:**

1. UPON BEING INDEXED TO ISOLATION MODE MANUALLY THROUGH THE ROOM TEMPERATURE/PRESSURE CONTROL PANEL, THE EXHAUST AIR TERMINAL UNIT SHALL MODULATE OPEN TO EXHAUST A SET QUANTITY OF AIR (400 CFM, ADJUSTABLE).
2. THE SUPPLY AIR TERMINAL UNIT SHALL MODULATE AS REQUIRED TO MAINTAIN ROOM DIFFERENTIAL PRESSURE SETTING OF -0.01" W.C. (ADJUSTABLE) WITH RESPECT TO THE ADJACENT CORRIDOR.
3. IF DURING ISOLATION MODE THE ENTRY DOOR TO THE ROOM OPENS, THE MODULATION OF THE VAV SUPPLY AIR TERMINAL UNIT SHALL BE SUSPENDED UNTIL SUCH TIME AS THE DOOR IS CLOSED AND THE DIFFERENTIAL PRESSURE HAS STABILIZED.
4. A LOCAL AUDIBLE AND VISUAL ALARM WITH ANNUNCIATION AT A REMOTE MONITORING POINT SHALL OCCUR IF THE ENTRY DOOR REMAINS OPEN FOR A SET AMOUNT OF TIME (60 SECONDS, ADJUSTABLE) OR IF THE SYSTEM FAILS TO MAINTAIN THE DIFFERENTIAL PRESSURE FOR A SET AMOUNT OF TIME (2 MINUTES, ADJUSTABLE).

**1 AIR SYSTEM FOR AIRBORNE INFECTIOUS ISOLATION ROOM (AI) (WITHOUT ANTEROOM)**

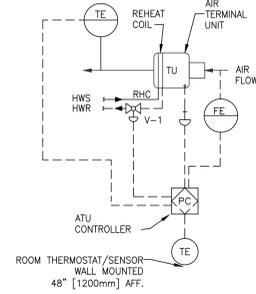
NTS NEGATIVE PRESSURE



**NOTE:** UPON DETECTION OF SMOKE BY THE SMOKE DETECTOR, THE SMOKE DAMPER SHALL CLOSE & SEND AN ALARM TO THE ECC AND THE ASSOCIATED AIR HANDLING UNIT SHALL BE DE-ENERGIZED.

**2 SMOKE DAMPER CONTROL DIAGRAM**

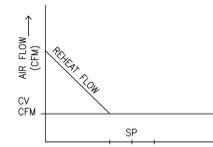
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NO SUPPLEMENTAL HEATING

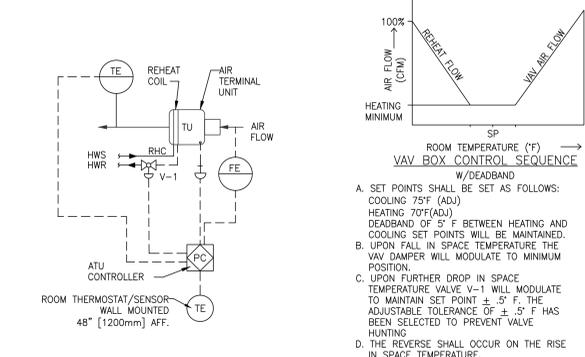
**3 CONSTANT VOLUME AIR TERMINAL UNIT CONTROL DIAGRAM**

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**CV BOX CONTROL SEQUENCE**

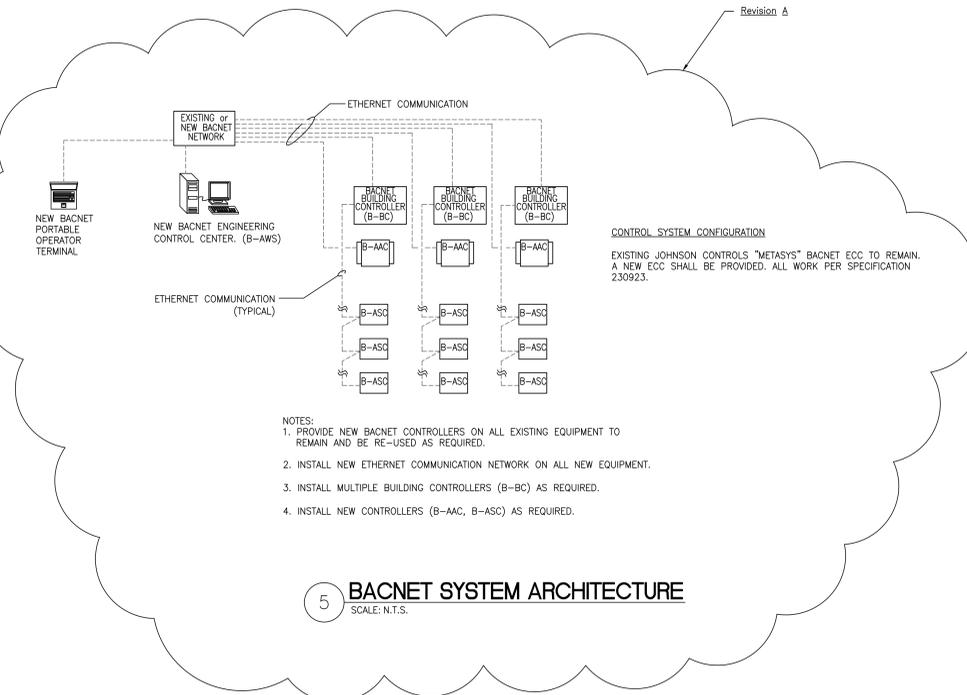
- W/DEADBAND
- A. SET POINTS SHALL SET AS FOLLOWS:  
COOLING 75° F (ADJ)  
HEATING 70° F (ADJ)  
DEADBAND OF 5° F BETWEEN HEATING AND COOLING SET POINT WILL BE MAINTAINED
  - B. UPON FALL IN SPACE TEMPERATURE BELOW SET POINT VALVE V-1 WILL MODULATE TO MAINTAIN SET POINT ± .5° THE ADJUSTABLE TOLERANCE OF ± .5° HAS BEEN SELECTED TO PREVENT VALVE HUNTING
  - C. THE REVERSE SHALL OCCUR ON RISE IN SPACE TEMPERATURE.



NO SUPPLEMENTAL HEATING

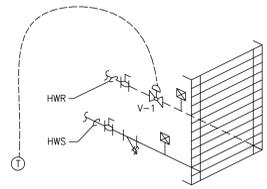
**4 VARIABLE VOLUME AIR TERMINAL UNIT CONTROL DIAGRAM**

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**5 BACNET SYSTEM ARCHITECTURE**

SCALE: N.T.S.

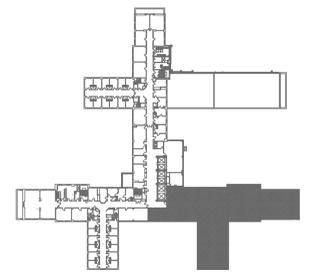


**RADIANT WALL PANEL CONTROL SEQUENCE**

- A. HEATING SET POINT SHALL BE 70° F (ADJ).
- B. UPON FALL IN SPACE TEMPERATURE BELOW SET POINT VALVE V-1 WILL MODULATE OPEN TO MAINTAIN SET POINT.
- C. THE REVERSE SHALL OCCUR ON RISE IN SPACE TEMPERATURE.
- D. IN THE EVENT OF A POWER FAILURE, VALVE SHALL FAIL OPEN.

**6 RADIANT WALL PANEL CONTROL DIAGRAM**

NTS



KEY PLAN  
SCALE: NONE

Revision	Date
Revision A	1/7/15



Reviewed: Facility Manager
Reviewed: Facility Director
Reviewed:
Reviewed:

Drawing Title <b>MECHANICAL AUTOMATIC CONTROL DIAGRAMS</b>
Approved: Project Director

Project Title <b>RENOVATION FOR 6B WARD</b>	Date 10-15-2014
Building Number <b>NO. 1</b>	Checked <b>JAS</b>
Location VAMC SYRACUSE, NY	Drawn <b>PNL</b>

Project No. <b>528A7-13-745</b>
DRAWING NO. <b>M-604</b>
Dwg. 42 of 81

