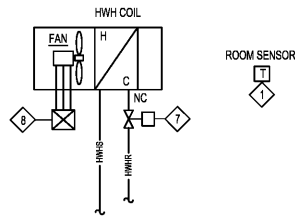
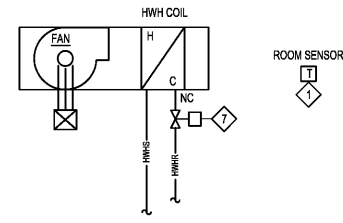


TYPICAL ROOM CONTROL SCHEMATIC
SCALE: NONE



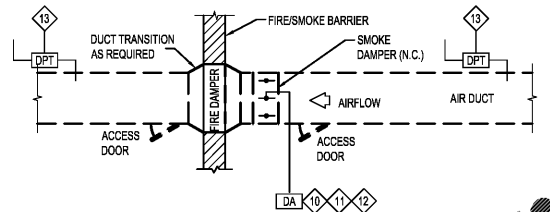
TYPICAL FOR UNIT HEATER
SCALE: NONE



TYPICAL FOR CABINET HEATER
SCALE: NONE

PRESSURE SWITCH HERE FOR RETURN/EXHAUST MAIN DUCT ONLY. ESTABLISH THE APPROPRIATE SETPOINT AT TEST AND BALANCE. SEND AN ALARM WHEN DUCT STATIC PRESSURE VARIES FROM SETPOINT BY +/- 50%.

PRESSURE SWITCH HIGH FOR SUPPLY AIR MEDIUM PRESSURE DUCT ONLY. ESTABLISH THE APPROPRIATE SETPOINT AT TEST AND BALANCE. SEND AN ALARM WHEN DUCT STATIC PRESSURE VARIES FROM SETPOINT BY +/- 25%.



NOTE:
UPON DETECTION OF SMOKE BY ANY OF THE AREA (OR DUCT) SMOKE DETECTORS, THE SMOKE DAMPER SHALL CLOSE & SEND AN ALARM TO THE CENTRAL DDC. DIAGRAM ABOVE SHOWS SEPARATE FIRE DAMPER AND SMOKE DAMPER.

PROVIDE DEDICATED DUCT SMOKE DETECTORS FOR THE FOLLOWING SMOKE EXHAUSTS:
1. EXHAUSTS FOR SERV. ROOM HUB, PATIENT BATH 5C107A, 20' EXHAUST DUCT NEAR NURSE MGR1 5C139.
ALL SA DUCT RISERS TO THE EXISTING SA DUCT RISERS AT THE CHASES.

SMOKE DAMPER CONTROL SCHEMATIC
SCALE: NONE

SEQUENCE OF OPERATION

- 1.0. SA VAV TERMINALS
- 1.1. THE VAV DAMPER SHALL MODULATE TO MAINTAIN SPACE TEMPERATURE UNTIL IT REACHES ITS MINIMUM POSITION.
- 1.1.1. UPON FURTHER DROP IN SPACE TEMPERATURE THE CONTROL SYSTEM SHALL MODULATE THE HOT WATER CONTROL VALVE.
- 1.1.2. THE REVERSE SHALL OCCUR ON THE RISE IN SPACE TEMPERATURE.
- 1.2. THOSE TERMINALS WITH EQUAL MAXIMUM AND MINIMUM AIR FLOWS SHALL OPERATE AS CONSTANT AIR VOLUME BOXES. THE CONTROL SYSTEM SHALL MODULATE THE HOT WATER CONTROL VALVE TO MAINTAIN SPACE TEMPERATURE.
- 2.0. UNIT HEATER
- 2.1. DDC TO TURN FAN ON WHEN THE SPACE TEMPERATURE IS BELOW 55 DEG F (ADJUSTABLE).
- 2.2. DDC TO MODULATE HW VALVE TO MAINTAIN ROOM AT 55 DEG F (ADJUSTABLE).
- 2.3. DDC TO ISSUE AN ALARM IF ROOM TEMPERATURE GOES BELOW 40 DEG F.
- 3.0. CABINET HEATER
- 3.1. CABINET HEATER FAN TO BE TURNED ON/OFF BY A ROOM SWITCH.
- 3.2. DDC TO MODULATE HW VALVE TO MAINTAIN ROOM AT 75 DEG F (ADJUSTABLE).
- 4.0. ALARMS
- 4.1. SEND AN ALARM TO CENTRAL DDC IF ANY ZONE TEMPERATURE ABOVE 85 DEG F (ADJUSTABLE) OR BELOW 40 DEG F (ADJUSTABLE).
- 4.2. REFER TO OTHER NOTES IN SCHEMATICS FOR OTHER ALARMS REQUIRED.
- 5.0. TRENDS
- 5.1. TRENDS THE FOLLOWING TRENDS:
 - 5.1.1. SPACE TEMPERATURES - 2 WEEKS AT 15 MINUTE INTERVALS
 - 5.1.2. ALL HYDRONIC VALVE POSITIONS - 2 WEEKS AT 15 MINUTE INTERVALS
 - 5.1.3. ALL VAV DISCHARGE AIR TEMPERATURES - 2 WEEKS AT 15 MINUTE INTERVALS
 - 5.1.4. ALL VAV AIRFLOWS - 2 WEEKS AT 15 MINUTE INTERVALS
 - 5.1.5. DOMESTIC WATER TEMPERATURES - CONTINUOUSLY AT 15 MINUTE INTERVALS (COORDINATE WITH WATER QUALITY COMMITTEE)

CONTROL LEGEND			
	HEATING COIL	AF	AIR FLOW MEASUREMENT STATION
	HAND-OFF-AUTO SWITCH	AI	ANALOG INPUT
	TWO WAY ELECTRONIC CONTROL VALVE	AO	ANALOG OUTPUT
	ROUND CONTROL DAMPER	DI	DIGITAL INPUT
	DAMPER ACTUATOR (ELECTRONIC)	DO	DIGITAL OUTPUT
	DIFFERENTIAL PRESSURE SENSOR	NC	NORMALLY CLOSED
	AFMS AIR FLOW MEASURING STATION	NO	NORMALLY OPEN
	DUCT MOUNTED TEMP. SENSOR	O	OUTPUT
	SPACE HUMIDITY SENSOR	RA	RETURN AIR
	SPACE TEMPERATURE SENSOR		

CONTROL POINTS SCHEDULE			
MARK	TYPE	DESCRIPTION	NOTES
1	AI	ROOM TEMPERATURE SENSOR	1;
2	AI	DUCT PRESSURE SENSOR	
3	AI	VAV TERMINAL AIR FLOW SENSOR	1;
4	AO	VAV TERMINAL AIR DAMPER	1;
5	AO	VAV TERMINAL REHEAT	1;
6	AI	VAV DISCHARGE TEMPERATURE	1;
7	AO	UNIT HEATER CABINET HEATER HW CONTROL VALVE	1;
8	DO	UNIT HEATER FAN ON/OFF	1;
9	AI	DOMESTIC WATER TEMPERATURE SENSOR - PIPE MOUNTED	2;
10	DI	DAMPER END SWITCH (FULL OPEN VERIFICATION)	
11	DI	DAMPER END SWITCH (FULL CLOSE VERIFICATION)	
12	DO	TWO-POSITION SMOKE DAMPER ACTUATOR	
13		OVER/UNDER PRESSURE SWITCH	

NOTE:
1. TYPICAL ONE PER UNIT.
2. SEE PLUMBING PP SHEETS FOR LOCATIONS. QUANTITY IS 2 IN DOMESTIC COLD WATER AND 2 IN DOMESTIC HOT WATER.

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Revisions:	Date:

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CLARKNEXSEN

440 Martin Luther King Jr. Blvd
Macon, GA 31201
478.743.8415 Fax: 478.743.8239
www.clarknexsen.com

ARCHITECT/ENGINEER OF RECORD

TOLAND MIZELL MOLNAR

590 MEANS STREET NW
STE. 200
ATLANTA, GA 30316

STAMP

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title

CONTROLS SCHEMATICS

Approved: Project Director

Phase

FINAL SUBMITTAL

FULLY SPRINKLERED

Project Title

RENOVATE GERIATRIC-MED-PSYCH INPATIENT 5TH FLOOR

Location

Atlanta VA Medical Center - Atlanta, Ga.

Issue Date

08-07-2019

Checked

WAW

Drawn

KAG

Project Number

508-17-101

Building Number

Bldg C: Main Tower

Drawing Number

MI601