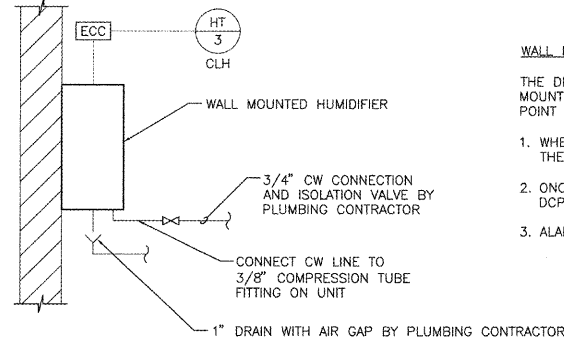


| JOB: 509-12-104 BUILDING: 110 | | POINT LEGEND | SYSTEM OUTPUTS | | SYSTEM INPUTS | | SYSTEM SOFTWARE/CONTROL | | PAGE: |
|----------------------------------|-------|--------------|----------------|---------|---------------|--------|-------------------------|----------------------|-------|
| | | | BINARY | ANA-LOG | BINARY | ANALOG | ALARM PROCESSING | APPLICATION/FUNCTION | |
| SYSTEMS: | | | | | | | | | |
| WALL MOUNTED HUMIDIFIER | | | | | | | | | |
| SYSTEM COMPONENT: | | | | | | | | | |
| CLEAN ROOM HUMIDITY | AI-17 | CLH (HT-3) | | | | | | | |
| CLEAN ROOM TEMPERATURE | AI-18 | CLT (TT-10) | | | | | | | |
| SUPPLY AIR TEMPERATURE | AI-19 | SAT (TT-11) | | | | | | | |
| SUPPLY AIRFLOW (CFM) | AI-20 | SAF (FT-4) | | | | | | | |
| HUMIDIFIER STATUS | BI-8 | HUM-STS | | | | | | | |
| HUMIDIFIER ALARM | BI-9 | HUM-ALA | | | | | | | |
| HUMIDIFIER START/STOP | BO-3 | HUM-SST | | | | | | | |



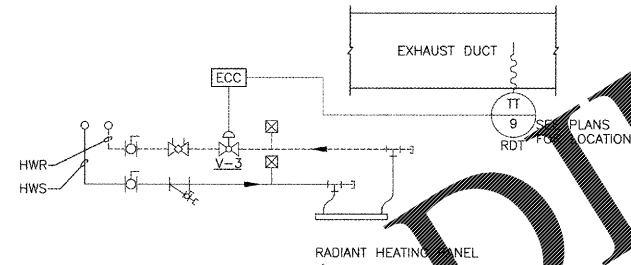
WALL MOUNTED SPACE HUMIDIFICATION UNIT CONTROL SEQUENCE

THE DIGITAL CONTROL PANEL (DCP) SHALL CONTROL WALL MOUNTED HUMIDIFICATION UNIT TO MAINTAIN SPACE HUMIDITY SET POINT AS SENSED BY HUMIDITY SENSOR, HT-3.

1. WHEN THE SPACE HUMIDITY FALLS BELOW 30% (ADJUSTABLE), THE DCP SHALL SIGNAL THE UNIT TO START.
2. ONCE SPACE HUMIDITY RISES ABOVE 60% (ADJUSTABLE), THE DCP SHALL SIGNAL THE UNIT TO STOP.
3. ALARM ROOM HUMIDITY BELOW 20%.

C1 WALL MOUNTED HUMIDIFICATION UNIT CONTROL
SCALE: NONE

| JOB: 509-12-104 BUILDING: 110 | | POINT LEGEND | SYSTEM OUTPUTS | | SYSTEM INPUTS | | SYSTEM SOFTWARE/CONTROL | | PAGE: |
|----------------------------------|-------|--------------|----------------|---------|---------------|--------|-------------------------|----------------------|-------|
| | | | BINARY | ANA-LOG | BINARY | ANALOG | ALARM PROCESSING | APPLICATION/FUNCTION | |
| SYSTEMS: | | | | | | | | | |
| RADIANT HEATING PANELS | | | | | | | | | |
| SYSTEM COMPONENT: | | | | | | | | | |
| EXHAUST AIR TEMPERATURE | AI-16 | RDT (TT-9) | | | | | | | |
| RADIANT HEATING VALVE, V-3 | AO-8 | RDP-V3 | | | | | | | |



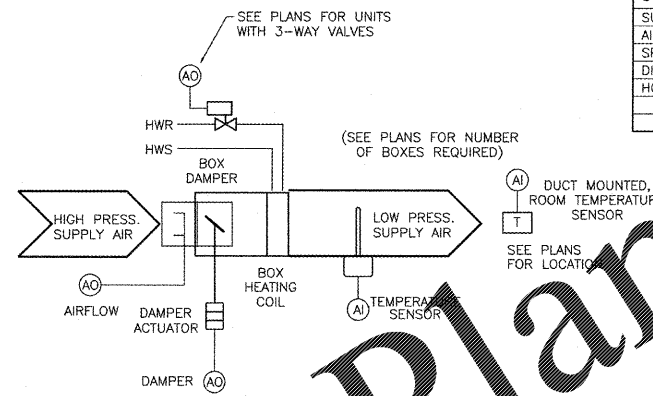
RADIANT HEATING PANEL CONTROL SEQUENCE

WHEN OUTSIDE AIR TEMPERATURE, AS SENSED BY THE ENGINEERING CONTROL CENTER (ECC), IS BELOW 71°F (ADJUSTABLE), RADIANT HEATING PANEL CONTROL VALVE, V-3 SHALL BE MODULATED TO MAINTAIN ITS RESPECTIVE SPACE OPERATING SET POINT.

1. WHEN THE SPACE FALLS BELOW 68°F (ADJUSTABLE), THE DCP SHALL MODULATE VALVE, V-3 TO THE FULL OPEN POSITION.
2. UPON A RISE IN SPACE TEMPERATURE ABOVE 68°F (ADJUSTABLE), THE DCP SHALL MODULATE VALVE V-3 TO THE CLOSED POSITION.

C2 RADIANT HEATING PANEL CONTROL SEQUENCE
SCALE: NONE

| JOB: 509-12-104 BUILDING: 110 | | POINT LEGEND | SYSTEM OUTPUTS | | SYSTEM INPUTS | | SYSTEM SOFTWARE/CONTROL | | PAGE: |
|----------------------------------|-------|--------------|----------------|---------|---------------|--------|-------------------------|----------------------|-------|
| | | | BINARY | ANA-LOG | BINARY | ANALOG | ALARM PROCESSING | APPLICATION/FUNCTION | |
| SYSTEMS: | | | | | | | | | |
| VAV UNITS WITH HOT WATER REHEAT | | | | | | | | | |
| SYSTEM COMPONENT: | | | | | | | | | |
| SUPPLY AIRFLOW (CFM) | AI-21 | SAF (FT-5) | | | | | | | |
| AIR DAMPER POSITION | AO-9 | ADP | | | | | | | |
| SPACE TEMPERATURE | AI-23 | ST (TT-12) | | | | | | | |
| DISCHARGE TEMPERATURE | AI-24 | DT (TT-13) | | | | | | | |
| HOT WATER COIL VALVE | AO-10 | HWC-V5 | | | | | | | |



VAV AIR TERMINAL UNITS WITH RE-HEAT

OCCUPIED MODE

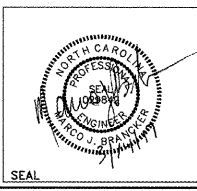
1. EACH VARIABLE AIR VOLUME (VAV) TERMINAL UNIT SHALL BE MODULATED TO MAINTAIN ITS RESPECTIVE SPACE TEMPERATURE SET POINT. THE SPACE TEMPERATURE SENSOR SHALL SIGNAL THE TERMINAL'S AIR FLOW CONTROLLER IN RESPONSE TO THE ROOM'S REQUIREMENTS. THE MAXIMUM AND MINIMUM AIR FLOW LIMITS SHALL BE ADJUSTABLE. WHEN THE SPACE FALLS BELOW THE ROOM'S SET POINT, THE CONTROLLER SHALL MODULATE THE AIR FLOW TO THE SELECTED MINIMUM POSITION.
2. UPON A FURTHER DROP IN ROOM TEMPERATURE, THE BAS SHALL ACT TO MODULATE THE HOT WATER HEATING COIL CONTROL VALVE TOWARDS ITS FULL OPEN POSITION. (THE DAMPERS IN THE VAV TERMINAL UNITS SHALL HAVE BEEN MODULATED TO THEIR MINIMUM POSITION BEFORE THE HEATING VALVE IS OPENED.)
3. EACH CONSTANT AIR VOLUME (CAV) TERMINAL UNIT SHALL BE SIMILAR TO THE VAV UNITS, EXCEPT THAT, UPON A FALL IN ROOM TEMPERATURE, THE AIRFLOW SHALL REMAIN CONSTANT AND THE HOT WATER CONTROL VALVE SHALL BE MODULATED TOWARD ITS FULL OPEN POSITION.

F1 VAV AND CONSTANT VOLUME AIR TERMINAL UNIT WITH REHEAT CONTROL DIAGRAM
SCALE: NONE

BUILDING AUTOMATION SYSTEM SHALL BE AN EXTENSION OF EXISTING CONTROLS SYSTEM. CONTROLS CONTRACTOR SHALL COORDINATE WITH THE VA AND SYSTEMS INTEGRATOR FOR FULL DDC SYSTEM FUNCTIONALITY AT THE ENGINEERING CONTROL CENTER (ECC)

| REVISION | DESCRIPTION |
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Department of Veterans Affairs
Charlie Norwood
 VA Medical Center
 1 Freedom Way
 Augusta, Ga. 30904



Architect/Engineer Address
Harrell Saltrick & Hopper
 Design & Management Solutions for the Built Environment
 5015 TOWER POINT DRIVE
 CHARLOTTE, NC 28227
 WWW.HSPCC.COM
 P 704.814.1330
 F 704.331.0233
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 NCV PROJECT # 1009

| Recommended Approvals: | |
|----------------------------|------------------------------------|
| 1. MEDICAL CENTER DIRECTOR | 6. OPERATIONS SERVICE LINE MANAGER |
| 2. ASSISTANT DIRECTOR | 7. INFECTION CONTROL MANAGER |
| 3. CHIEF OF STAFF | 8. SAFETY MANAGER |
| 4. ASSOC. DIRECTOR | 9. GENERAL ENGINEER |
| 5. SERVICE LINE MGRS. | 10. COR |

| |
|---|
| Drawing Title MECHANICAL CONTROL DIAGRAMS |
| 100% CONSTRUCTION DOCUMENTS |
| FULLY SPRINKLERED |

| | |
|--|----------------------------|
| Project Title RENOVATE MENTAL HEALTH UNITS | Date February 10, 2017 |
| Project Number 509-12-104 | DRAWING No. M702 |
| Drawn | Building Number |
| Checked | Reviewed |
| AutoCAD File Name | Const. Contract No. |

