

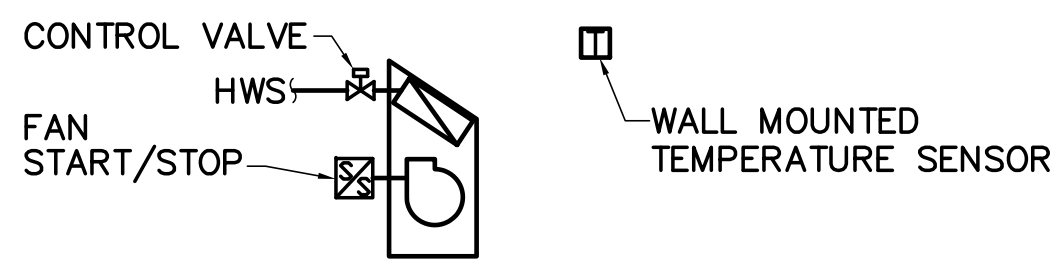
- DATA ROOM TEMPERATURE (TYP OF 3)
- FIRE FIGHTERS CONTROL ROOM

MISCELLANEOUS POINTS LIST								
SYSTEM POINT DESCRIPTION	GRAPHIC	ANALOG INPUT	ANALOG OUTPUT	BINARY INPUT	BINARY OUTPUT	ALARM	TREND LOG	NOTES
FIRE ROOM TEMPERATURE	x							1,4
ELEVATOR SUMP PUMP STATUS				x				2
ELEVATOR SUMP PUMP ALARM				x				2,3

NOTES:

- GENERATE ALARM IF THE ROOM TEMPERATURE RISES ABOVE 80°F OR FALLS BELOW 55°F (ADJUSTABLE).
- COORDINATE WITH OIL-MINDER SUMP PUMP CONTROL PANEL REQUIREMENTS, 221429.
- GENERATE AN ALARM IF THE ELEVATOR SUMP PUMP INDICATES AN ALARM.
- TYPICAL OF 3.

1 MISCELLANEOUS POINTS
M-705 NOT TO SCALE



SEQUENCE OF OPERATION

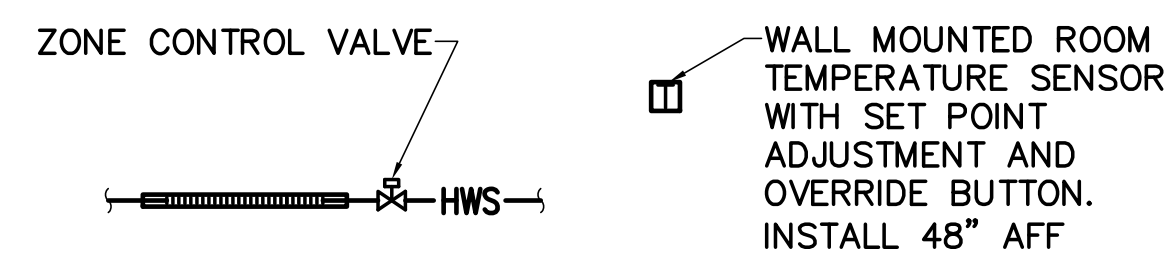
IF THE ROOM TEMPERATURE FALLS 2°F BELOW THE ROOM SET POINT (65°F, ADJUSTABLE) THE CONTROL VALVE SHALL OPEN AND THE FAN SHALL START. WHEN THE ROOM SET POINT IS SATISFIED THE VALVE SHALL CLOSE AND THE FAN SHALL STOP.

TYPICAL CABINET UNIT HEATER POINTS LIST								
SYSTEM POINT DESCRIPTION	GRAPHIC	ANALOG INPUT	ANALOG OUTPUT	BINARY INPUT	BINARY OUTPUT	ALARM	TREND LOG	NOTES
FAN START/STOP	x							
ROOM TEMPERATURE	x	x						1

NOTES:

- GENERATE ALARM IF THE ROOM TEMPERATURE FALLS 10°F (ADJUSTABLE) BELOW SET POINT FOR MORE THAN 30 MINUTES.

3 TYPICAL CABINET UNIT HEATER CONTROL DIAGRAM
M-705 NOT TO SCALE



SEQUENCE OF OPERATION

OCCUPANCY MODE: THE OCCUPIED MODE SHALL BE DETERMINED BY A USER ADJUSTABLE 7-DAY 24 HOUR SCHEDULE.

DURING OCCUPIED TIMES THE CONTROL VALVE SHALL CYCLE TO MAINTAIN THE ROOM SETPOINT, 68°F (ADJUSTABLE). DURING UNOCCUPIED TIMES THE CONTROL VALVE SHALL CYCLE TO MAINTAIN THE NIGHT SET-BACK, 62°F (ADJUSTABLE).

TYPICAL CONVECTOR/FINTUBE RADIATION POINTS LIST								
SYSTEM POINT DESCRIPTION	GRAPHIC	ANALOG INPUT	ANALOG OUTPUT	BINARY INPUT	BINARY OUTPUT	ALARM	TREND LOG	NOTES
CONTROL VALVE	x							

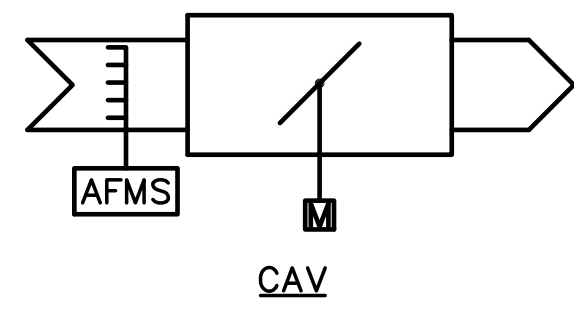
NOTES:

- GENERATE ALARM AT GUI IF ROOM TEMPERATURE IS LOWER THAN 3°F BELOW THE HEATING SET POINT FOR MORE THAN 30 MINUTES.

6 TYPICAL CONVECTOR/FINTUBE RADIATION CONTROL DIAGRAM
M-705 NOT TO SCALE

CAV-2.1 & CAV-2.2 POINTS LIST								
SYSTEM POINT DESCRIPTION	GRAPHIC	ANALOG INPUT	ANALOG OUTPUT	BINARY INPUT	BINARY OUTPUT	ALARM	TREND LOG	NOTES
CAV-2.1 DAMPER	x							
CAV-2.2 AIRFLOW	x	x						
CAV-2.2 DAMPER	x							

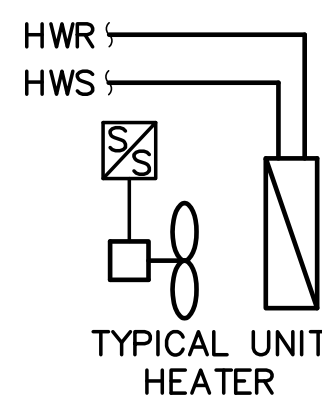
NOTES: 1. -



SEQUENCE OF OPERATION

WHENEVER AHU-3 IS RUNNING CAV-2.1 & CAV-2.2 SHALL MODULATE TO MAINTAIN SCHEDULED AIR FLOWS.

2 TYPICAL CONTROL DIAGRAM FOR CAV-2.1 AND CAV-2.2
M-705 NOT TO SCALE



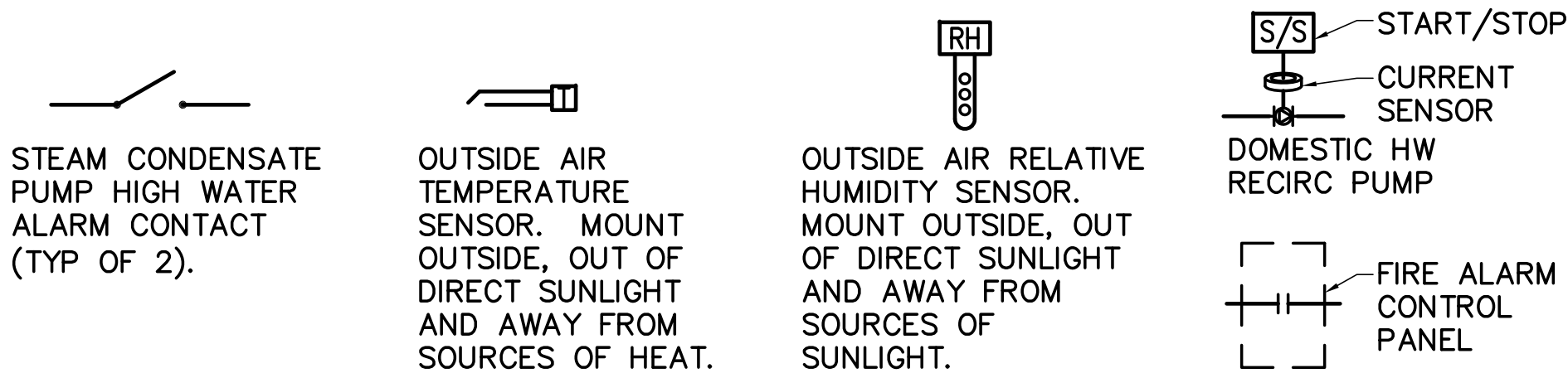
SEQUENCE OF OPERATION

ON CALL FOR HEAT FROM THE TEMPERATURE SENSOR, (ADJUSTABLE) THE FAN SHALL RUN.

TYPICAL UNIT HEATER POINTS LIST								
SYSTEM POINT DESCRIPTION	GRAPHIC	ANALOG INPUT	ANALOG OUTPUT	BINARY INPUT	BINARY OUTPUT	ALARM	TREND LOG	NOTES
FAN START/STOP	x							

NOTES: 1. GENERATE AN ALARM ON THE GUI IF THE ROOM TEMPERATURE IS NOT BETWEEN 40°F AND 85°F.

4 TYPICAL UNIT HEATER CONTROL DIAGRAM
M-705 NOT TO SCALE



SEQUENCE OF OPERATION

IN THE EVENT OF A FIRE ALARM THE DDC SYSTEM SHALL SHUT DOWN THE HVAC SYSTEM FANS, AND SHALL CLOSE OUTSIDE AIR AND EXHAUST AIR DAMPERS.

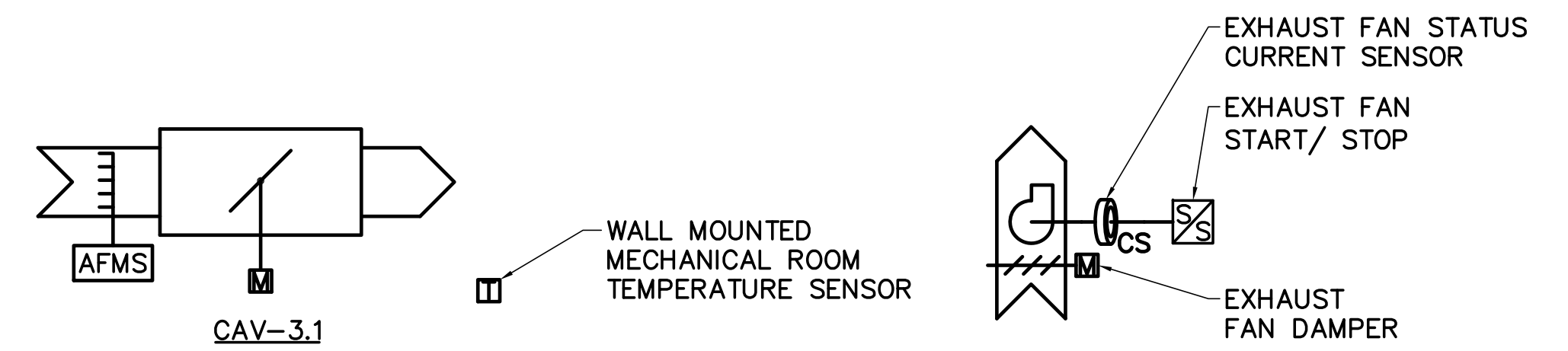
THE DOMESTIC HOT WATER RECIRC PUMP WILL RUN CONTINUOUSLY BETWEEN 5:00 AM AND 7:00 PM (ADJUSTABLE).

GLOBAL BUILDING POINTS LIST								
SYSTEM POINT DESCRIPTION	GRAPHIC	ANALOG INPUT	ANALOG OUTPUT	BINARY INPUT	BINARY OUTPUT	ALARM	TREND LOG	NOTES
OUTSIDE AIR RELATIVE HUMIDITY	x	x						
FIRE ALARM	x			x				1
DOMESTIC HOT WATER PUMP START/STOP	x			x				
DOMESTIC HOT WATER PUMP STATUS	x			x				2
CONDENSATE HIGH WATER ALARM	x			x				3,4

NOTES:

- GENERATE AN ALARM ON THE GUI IF THE FIRE ALARM PANEL INDICATES AN ALARM.
- GENERATE AN ALARM IF PUMP FAILS TO SHOW PROOF OF FLOW.
- GENERATE AN ALARM IF THE STEAM CONDENSATE REACHES THE HIGH LEVEL ALARM PROVIDED WITH THE CONDENSATE RECEIVER.
- TYPICAL OF 2. CR-1 IS LOCATED IN MECH RM 205 IN THE ARMORY BUILDING. CR-2 IS LOCATED IN ALEXANDER HALL CONNECT THE ALARM CONTACT FOR (R-2) TO THE EXISTING DDC SYSTEM IN ALEXANDER HALL.

7 BUILDING GLOBAL POINTS CONTROL DIAGRAM
M-705 NOT TO SCALE



EF-1 COOLING ONLY SEQUENCE OF OPERATION

WHENEVER THE MECHANICAL ROOM TEMPERATURE RISES ABOVE 80°F (ADJUSTABLE) EF-3 SHALL RUN AND ITS ASSOCIATED DAMPER SHALL BE OPEN, AND CAV-3.1 SHALL MAINTAIN 1350 CFM (ADJUSTABLE) OF MAKE-UP AIRFLOW.

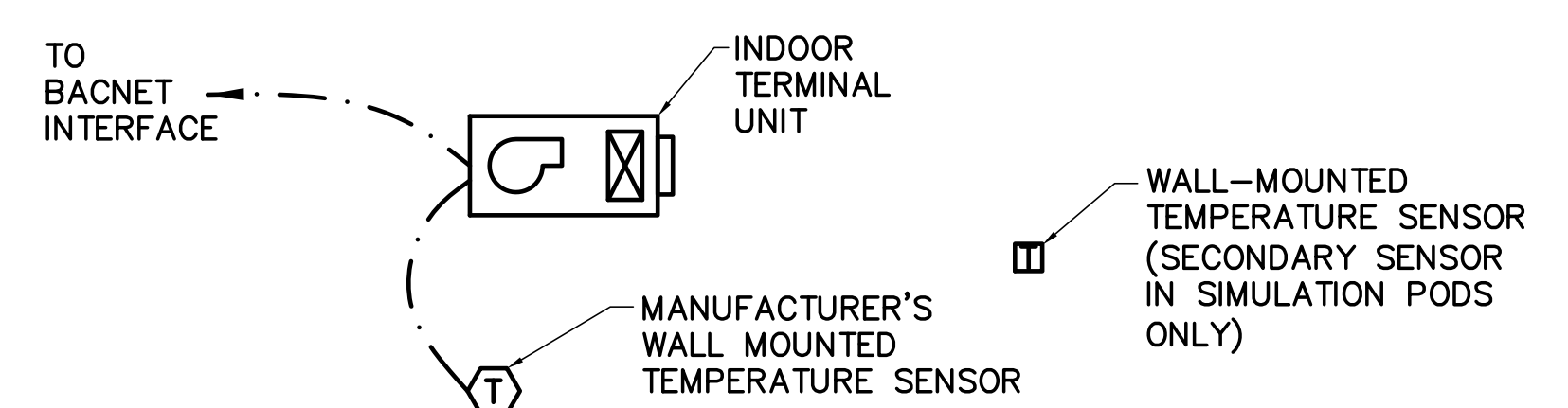
SCHEDULED EXHAUST FANS SEQUENCE OF OPERATION

WHENEVER ONE OF THE RTUS OR AHUS IS RUNNING IN OCCUPIED MODE THE EXHAUST FANS SHALL RUN CONTINUOUSLY AND THE ISOLATION DAMPER SHALL REMAIN OPEN. OTHERWISE THE FANS SHALL REMAIN OFF AND THE DAMPERS SHALL REMAIN CLOSED.

EXHAUST FANS POINTS LIST								
SYSTEM POINT DESCRIPTION	GRAPHIC	ANALOG INPUT	ANALOG OUTPUT	BINARY INPUT	BINARY OUTPUT	ALARM	TREND LOG	NOTES
EF-1 STATUS (CURRENT SENSOR)	x			x				1
EF-1 ISOLATION DAMPER	x							
EF-2 START/STOP	x							
EF-2 STATUS (CURRENT SENSOR)	x			x				1
EF-2 ISOLATION DAMPER	x							
EF-3 START/STOP	x							
EF-3 STATUS (CURRENT SENSOR)	x			x				1
EF-3 ISOLATION DAMPER	x							
CAV-3.1 AIRFLOW	x	x						
CAV-3.1 DAMPER	x	x						

NOTES: 1. GENERATE AN ALARM IF THE FAN FAILS TO SHOW PROOF OF AIRFLOW.

5 EF-1,2 & 3 EXHAUST FAN CONTROL DIAGRAM
M-705 NOT TO SCALE



SEQUENCE OF OPERATION

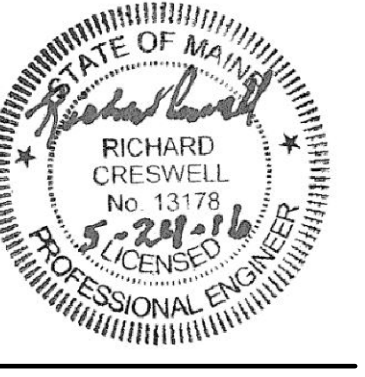
THE A/C SYSTEM SHALL CYCLE TO MAINTAIN THE ROOM SETPOINT, 75°F (ADJUSTABLE)

SINGLE ZONE A/C POINTS LIST								
SYSTEM POINT DESCRIPTION	GRAPHIC	ANALOG INPUT	ANALOG OUTPUT	BINARY INPUT	BINARY OUTPUT	ALARM	TREND LOG	NOTES
SECONDARY ROOM TEMPERATURE	x			x				2
TERMINAL UNIT ENABLE	x			x				1

NOTES:

- OBTAIN DATA THROUGH BACNET INTERFACE.
- GENERATE ALARM IF ROOM TEMPERATURE FALLS BELOW 45°F (ADJUSTABLE).

8 TYPICAL VRF OR SPLIT SYSTEM A/C ZONE CONTROL DIAGRAM
M-705 NOT TO SCALE



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RENOVATIONS TO THE
STEVEN AVENUE ARMORY

CONTROL DIAGRAMS 5

SCALE: AS NOTED

DATE: 05-24-16

DWG. M-705

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