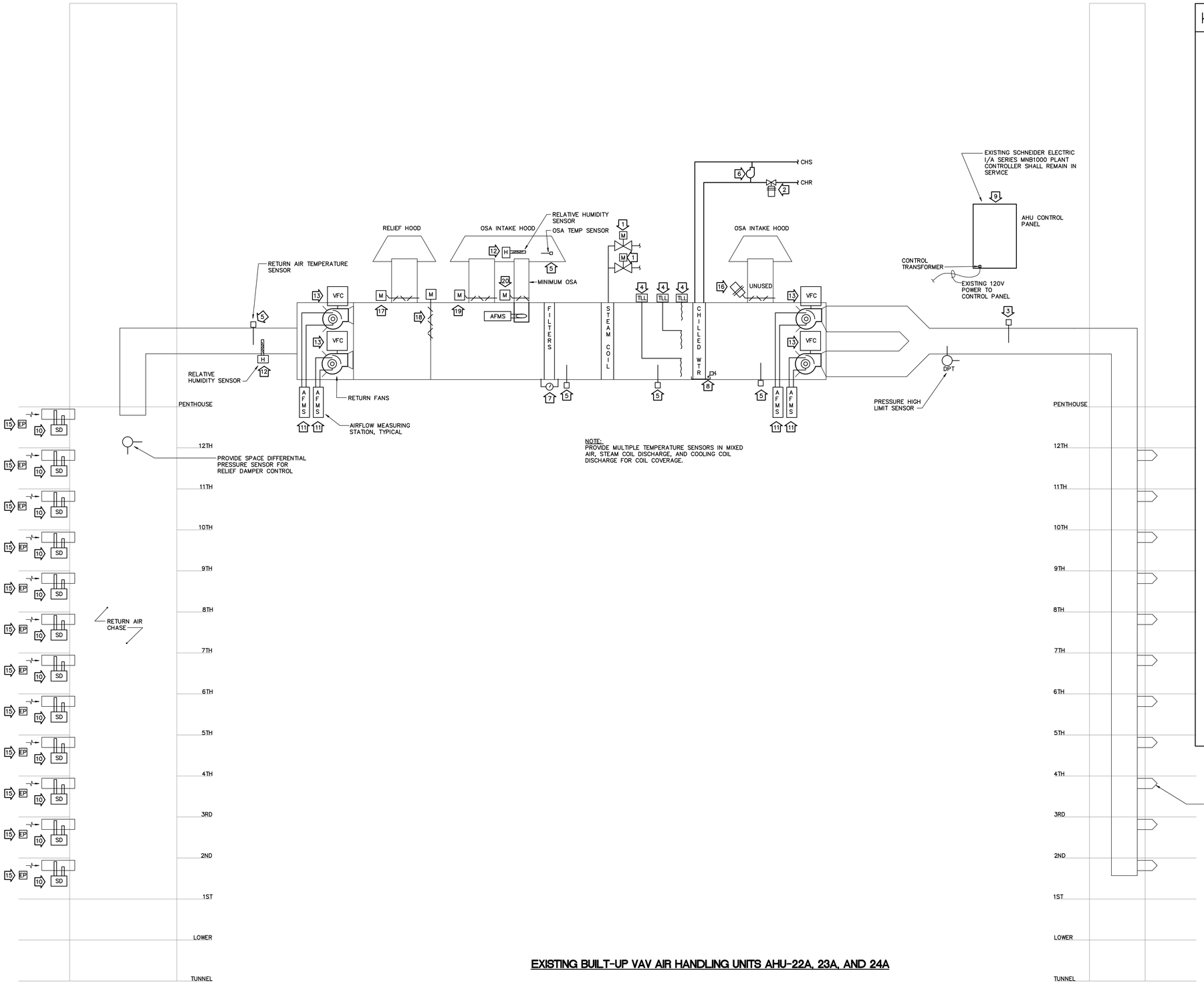


**EXISTING BUILT-UP VAV AIR HANDLING UNITS AHU-22A, 23A, AND 24A**

## KEYNOTES THIS SHEET (E)

1. REPLACE EXISTING PNEUMATIC 1/3 & 2/3 CONTROL VALVES SUPPLYING STEAM TO THE AHU WITH ELECTRIC CONTROL VALVES. SEE THE STEAM COIL SCHEDULE FOR HEATING CAPACITY REQUIRED WITH A 5 PSIG STEAM PRESSURE. VERIFY ACTUAL STEAM PRESSURE AVAILABLE AT CONTROL VALVES BEFORE ORDERING THE VALVES. CONNECT TO DDC CONTROLLER.
2. EXISTING ELECTRIC CONTROL VALVE AND ACTUATOR SHALL REMAIN IN PLACE.
3. REPLACE EXISTING DISCHARGE AIR TEMPERATURE SENSOR IN THE SUPPLY AIR DUCT.
4. EXISTING ELECTRIC LOW LIMIT THERMOSTATS WERE RECENTLY REPLACED. VERIFY OPERATION AND QUANTITY. NOTIFY OWNER OF ANY INOPERABLE THERMOSTATS.
5. PROVIDE TEMPERATURE SENSORS AT RETURN AIR DUCT, OUTSIDE AIR HOOD, MIXED AIR, STEAM COIL DISCHARGE, AND CHILLED WATER COIL DISCHARGE. CONNECT TO DDC CONTROLLER.
6. RECONNECT CONTROLS TO REPLACED CHILLED WATER BOOSTER PUMP.
7. PROVIDE PRESSURE GAGE/SWITCH WITH VISUAL INDICATION OF PRESSURE ACROSS FILTERS AND SWITCHES FOR AIRFLOW STATUS AND DIRTY FILTER STATUS AT BMS.
8. PROVIDE FLOAT SWITCH IN COOLING COIL DRAIN PAN. UPON SENSING A HIGH WATER LEVEL, CLOSE CHILLED WATER VALVE TO THE COOLING COIL AND ANNUNCIATE AN ALARM AT THE BMS.
9. EXISTING DDC CONTROLLER SHALL REMAIN IN SERVICE. REVISE SEQUENCE OF OPERATION TO INCLUDE NEW CONTROL COMPONENTS AND ADDITIONAL SEQUENCES OF OPERATION. PROVIDE EXPANSION BOARD AS REQUIRED. VERIFY THAT EXISTING INTERLOCKS WITH OTHER EQUIPMENT REMAIN IN PLACE.
10. VERIFY OPERATION OF EXISTING SMOKE DETECTOR. VERIFY THAT EACH SMOKE DETECTOR IS INTERLOCKED WITH THE AHU CONTROLS TO THAT THE AHU GOES INTO SMOKE CONTROL MODE WHEN PRODUCTS OF COMBUSTION ARE DETECTED.ETURN DAMPER AND ACTUATOR. VERIFY THAT SMOKE DETECTORS ALSO SIGNAL THE BUILDING FIRE ALARM SYSTEM. PROVIDE A REPORT OF FINDINGS.
11. PROVIDE AIRFLOW MEASURING STATION (AFMS). AFMS SHALL BE EBTRON GOLD SERIES OR APPROVED EQUAL. PROVIDE WITH A LOCAL LCD DISPLAY, A COMMUNICATIONS CARD, AND CONNECTION TO BMS. COORDINATE WITH FAN MANUFACTURER FOR FLOW RINGS. INDICATE FAN AIRFLOW ON BMS GRAPHICS.
12. PROVIDE RELATIVE HUMIDITY SENSORS IN RETURN AIR DUCT AND OUTSIDE AIR INTAKE DUCT FOR USE WITH ECONOMIZER CYCLE. CONNECT TO DDC CONTROLLER.
13. REPLACE EXISTING VARIABLE FREQUENCY CONTROLLER (VFC) FOR FAN SPEED CONTROL.
14. VERIFY OPERATION OF EXISTING DIFFERENTIAL PRESSURE SENSOR(S). VERIFY EXISTING SENSOR QUANTITIES. PROVIDE REPORT OF FINDINGS.
15. REPLACE EXISTING ELECTRIC/ PNEUMATIC (EP) RELAYS. THESE RELAYS ARE INTERLOCKED WITH THE SMOKE DETECTORS TO OPEN THE EXISTING PNEUMATIC TERMINAL UNITS ON EACH FLOOR TO FULL OPEN UPON SENSING SMOKE. LOCATE RELAYS AND REPORT LOCATIONS. THE EXISTING PNEUMATIC TUBING ROUTED TO VAV TERMINAL UNITS SHALL REMAIN IN SERVICE. WHEN THE AHU IS OPERATING IN THE SMOKE CONTROL MODE, THE AHU'S DDC CONTROLLER SHALL OPERATE AN E/P SWITCH TO OPEN ALL TERMINAL UNITS SERVED BY THE AHU SO THAT THEY RECEIVE FULL PRIMARY AIRFLOW.
16. THE EXISTING CONTROL DAMPER IN THE SUPPLY FAN SECTION IS CURRENTLY NOT IN OPERATION AND HAS NO CONTROL ACTUATOR. THIS DAMPER WILL NOT BE USED. VERIFY THAT THIS DAMPER IS LOCKED IN THE CLOSED POSITION.
17. REPLACE EXISTING ELECTRIC MOTORIZED RELIEF AIR DAMPER WITH A MOTORIZED MODULATING UL RATED SMOKE DAMPER WITH END SWITCHES FOR MONITORING DAMPER POSITION. BMS SHALL MONITOR DAMPER POSITION. THE APPROXIMATE SIZE OF THE NEW SMOKE DAMPER IS 66" X 94" FOR AHU-22A, 60" X 96" FOR AHU-23A, AND 92" X 96" FOR AHU-24A. FIELD VERIFY DIMENSIONS. THE EXISTING UNUSED RELIEF DAMPERS WITHOUT ACTUATORS ADJACENT TO THESE DAMPERS SHALL REMAIN UNUSED AND SHALL BE LOCKED CLOSED.
18. REPLACE EXISTING ELECTRIC MOTORIZED RETURN AIR DAMPER WITH A MOTORIZED MODULATING UL RATED SMOKE DAMPER WITH END SWITCHES FOR MONITORING DAMPER POSITION. BMS SHALL MONITOR DAMPER POSITION. THE APPROXIMATE SIZE OF THE NEW SMOKE DAMPER IS 144" X 48" FOR AHU-22A, 144" X 48" FOR AHU-23A, AND 192" X 48" FOR AHU-24A.
19. REPLACE EXISTING ELECTRIC MOTORIZED ECONOMIZER AIR DAMPER WITH A MOTORIZED MODULATING UL RATED SMOKE DAMPER WITH END SWITCHES FOR MONITORING DAMPER POSITION. BMS SHALL MONITOR DAMPER POSITION. THE APPROXIMATE SIZE OF THE EXISTING DAMPER TO REMAIN IS 144" X 48" FOR AHU-22A, 144" X 48" FOR AHU-23A, AND 180" X 60" FOR AHU-24A.
20. REMOVE EXISTNG UNUSED AND UNACTUATED OUTSIDE AIR INTAKE DAMPER AND REPLACE WITH A DAMPER FOR MINIMUM OUTSIDE AIR INTAKE. PROVIDE AIRFLOW MEASURING STATION (AFMS) IN THE MINIMUM OSA INTAKE DUCT. AFMS SHALL BE EBTRON GOLD SERIES OR APPROVED EQUAL. PROVIDE WITH A LOCAL LCD DISPLAY, A COMMUNICATIONS CARD, AND CONNECTION TO BMS. COORDINATE FLOW MEASURING TUBES WITH DUCT SIZE. INDICATE FAN AIRFLOW ON BMS GRAPHICS. THE MINIMUM OUTSIDE AIR INTAKE DAMPER SIZE SHALL BE 48" X 16" FOR AHU-22A AND 23A, AND 48" X 18" FOR AHU-24A. INSULATED SHEETMETAL SHALL BE PROVIDED OVER THE UNUSED OSA OPENING.

REVISIONS:

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DESCRIPTION:
TEMPERATURE CONTROLS III

4/7/2015 4:19 PM MIKE GLOVER