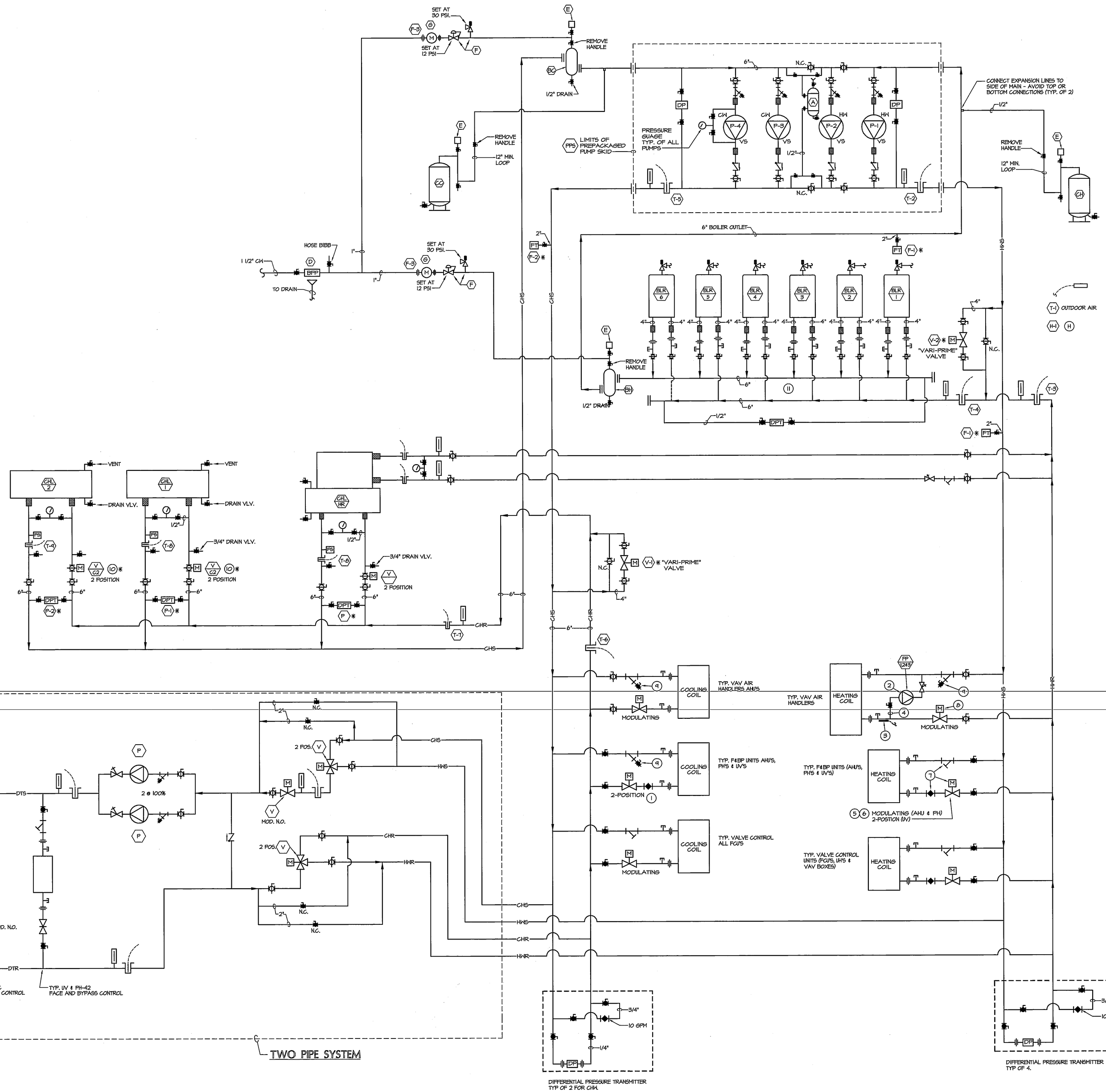

EQUIPMENT SPECIFICATIONS

- (A) CHEMICAL SHOT FEEDER. *
- (BC) TANGENTIAL AIR SEPERATOR EQUAL TO B&G R-6 W/ SCREEN.
- (BH) TANGENTIAL AIR SEPERATOR EQUAL TO B&G R-6 W/ SCREEN.
- (EC) VERTICAL HYDRO-PNEUMATIC EXPANSION TANK. ASME RATED, 370 GALLON ACCEPTANCE. EQUAL TO EXTROL MODEL 1400-L.
- (EH) VERTICAL HYDRO-PNEUMATIC EXPANSION TANK. ASME RATED, 370 GALLON ACCEPTANCE. EQUAL TO EXTROL MODEL 1400-L.
- (D) WATTS SERIES 009Q REDUCED PRESSURE ZONE BACKFLOW PREVENTER.
- (E) AUTOMATIC AIR VENT, EQUAL TO HOFFMAN MODEL 78Z. PROVIDE BALL VALVE AT CONNECTION TO AIR SEPERATOR.
- (F) MAKE-UP WATER PRESSURE REGULATOR COMBINATION VALVE 1/2" N.P.T. EQUAL TO ARMSTRONG 11 SET AT 12 PSI MAKE-UP, 30 PSI RELIEF.
- (G) WATER METER, THERMOPLASTIC OR BRONZE DISC TYPE WITH TOTALIZING REGISTER AND REED SWITCH FOR EMS CONNECTION EQUAL TO BADGER METER.
- (BLR 1-6) NEW BOILERS 1 - 6 EQUAL TO AERCO - BENCHMARK MODEL BMK-2.0, 2000 MBH INPUT, 1840 MBH OUTPUT, HIGH-EFFICIENCY, CONDENSING TYPE BOILER, 480V, 3 PHASE.
- (CHL 1&2) NEW WATER CHILLER EQUAL TO TRANE R SERIES RTAA 240, CAPACITY 232 TON AT 95° AMBIENT, 45° LWT. MIN. E.E.R. OF 9.2. 480 V, 3Ø. 303/224 MCA; TWO (2) 120V, 1Ø, 20A.
- (CHL HR) NEW HEAT RECOVERY CHILLER
- (PPS) NEW PUMPS P-1, P-2, P-3, & P-4 360 GPM AT 110 FT TDH, 15 HP, 480V, 3Ø. PUMPS TO BE PREMOUNTED & WIRED ON FACTORY BUILT PACKAGED SKID. SEE SECTION 15541. PUMP CURVE MAY EXCEED RATED HP BY 5% (SERVICE FACTOR 1.05%), PUMP DESIGN POINT SHALL NOT EXCEED RATED HP.
- * INDICATES ITEMS FURNISHED BY SECTION 15541.

SYSTEM FLUSH & CHEMICAL TREATMENT:

- ON INITIAL SYSTEM FILL, PROVIDE A PRETREATMENT CHEMICAL PROGRAM THAT INCLUDES INORGANIC PHOSPHATE, AN ORGANIC CORROSION INHIBITOR, A DISPERSANT, AND AN OIL EMULSIFIER, SUCH AS NALCO "NALPREP III".
- CIRCULATE SYSTEM FOR 24 HOURS MINIMUM WITH START-UP STRAINERS IN PUMPS.
- DRAIN SYSTEM. BLOW-DOWN ALL STRAINERS.
- REFILL SYSTEM THROUGH WATER METER AND RECORD SYSTEM VOLUME.
- PROVIDE NITRITE BASE SCALE AND CORROSION INHIBITOR SUCH AS NALCO "2893". ENSURE 400-1000 PPM THROUGHOUT SYSTEM.
- REMOVE START-UP STRAINERS AFTER ONE WEEK OF PUMP OPERATION.
- CONTACT GARY SKAGGS OF NALCO CHEMICAL AT 1-800-444-6252 (EXT. 5049) OR LEE AKIN OF DIVERSY CHEMICAL AT 502-521-1130.

NOTES:

1. TWO POSITION "END-OF-CYCLE" VALVE SHALL BE FURNISHED BY UV MANUFACTURER FOR UNIT VENTS, AND PROVIDED BY SECTION 15900 FOR ALL OTHER F&BP COILS. VALVE SHALL BE CLOSED WHEN UNIT HAS A CALL FOR HEAT AND DURING ALL UNOCCUPIED HOURS.
2. FREEZE PROTECTION PUMPS SHALL OPERATE AT ALL TIMES OAT IS BELOW 35°F WHETHER UNIT IS ON OR NOT.
3. STRAP-ON LOW-LIMIT THERMOSTAT SHALL OVERRIDE CONTROL VALVE SIGNAL TO ENSURE THAT COIL LEAVING WATER TEMP. DOES NOT GO BELOW 55°F.
4. PIPE SIZE SHALL MATCH PUMP INLET AND OUTLET.
5. MODULATING END OF CYCLE VALVE SHALL BE CLOSED WHEN UNIT IS IN COOLING. WHEN IN HEATING UNOCCUPIED-MODE, VALVE SHALL BE 25% OPEN WHEN OAT IS BELOW 35°F, AND CLOSED WHEN OAT IS ABOVE 35°F. DURING HEATING OCCUPIED MODE, DOWN TO 35° OAT F&BP DAMPER SHALL BE 100% FACE AND VALVE SHALL MODULATE TO CONTROL SPACE TEMP. AT OAT OF 35° AND COLDER, VALVE SHALL BE 100% OPEN AND F&BP DAMPER SHALL MODULATE TO CONTROL SPACE TEMPERATURE.
6. TWO-POSITION "END-OF-CYCLE" VALVE SHALL BE FURNISHED BY UV MANUFACTURER FOR ALL UNIT VENTS. VALVE SHALL BE CLOSED WHEN UNIT IS IN COOLING. WHEN UNIT IS UNOCCUPIED, VALVE SHALL BE CLOSED AT OAT ABOVE 35°, AND OPEN AT ALL OAT BELOW 35°F.
7. PENTHOUSE UNITS SHALL HAVE ALL VALVING INSTALLED BELOW ROOF LEVEL.
8. UNOCCUPIED MODE, VALVE SHALL BE CLOSED AT ALL OAT ABOVE 35°F. BELOW 35° OAT, VALVE SHALL OPEN 25%.
9. BLOWDOWN VALVES ARE REQUIRED ON ALL STRAINERS 2" AND LARGER.
10. BALANCE NOTE: SET VALVE LIMITS IN CONJUNCTION WITH SECTION 15541 START-UP TO ENSURE EQUAL FLOW.
11. BOILER HEADERS SHALL BE PIPED WITH "REVERSE RETURN" AS SHOWN.
12. INTERCONNECT WIRING SHALL BE PROVIDED BY SECTION TO WHOM SIGNAL IS BEING SENT.

ARCHITECTS ENGINEERS PLANNERS

VEAZEY PARROTT & SHOULDERS

528 Main Street Suite 400 Evansville, In 47708

RENOVATION PROJECT FOR:

DUNELAND SCHOOLS

DUNELAND HIGH SCHOOL/MIDDLE SCHOOL

DUNELAND, INDIANA

Drawing Title:

MECHANICAL SCHEMATIC

Project No:	
Project Date:	
CAD file name: 9905CH.DWG plot date:	
Drawing No:	M 4.0

08-11-04