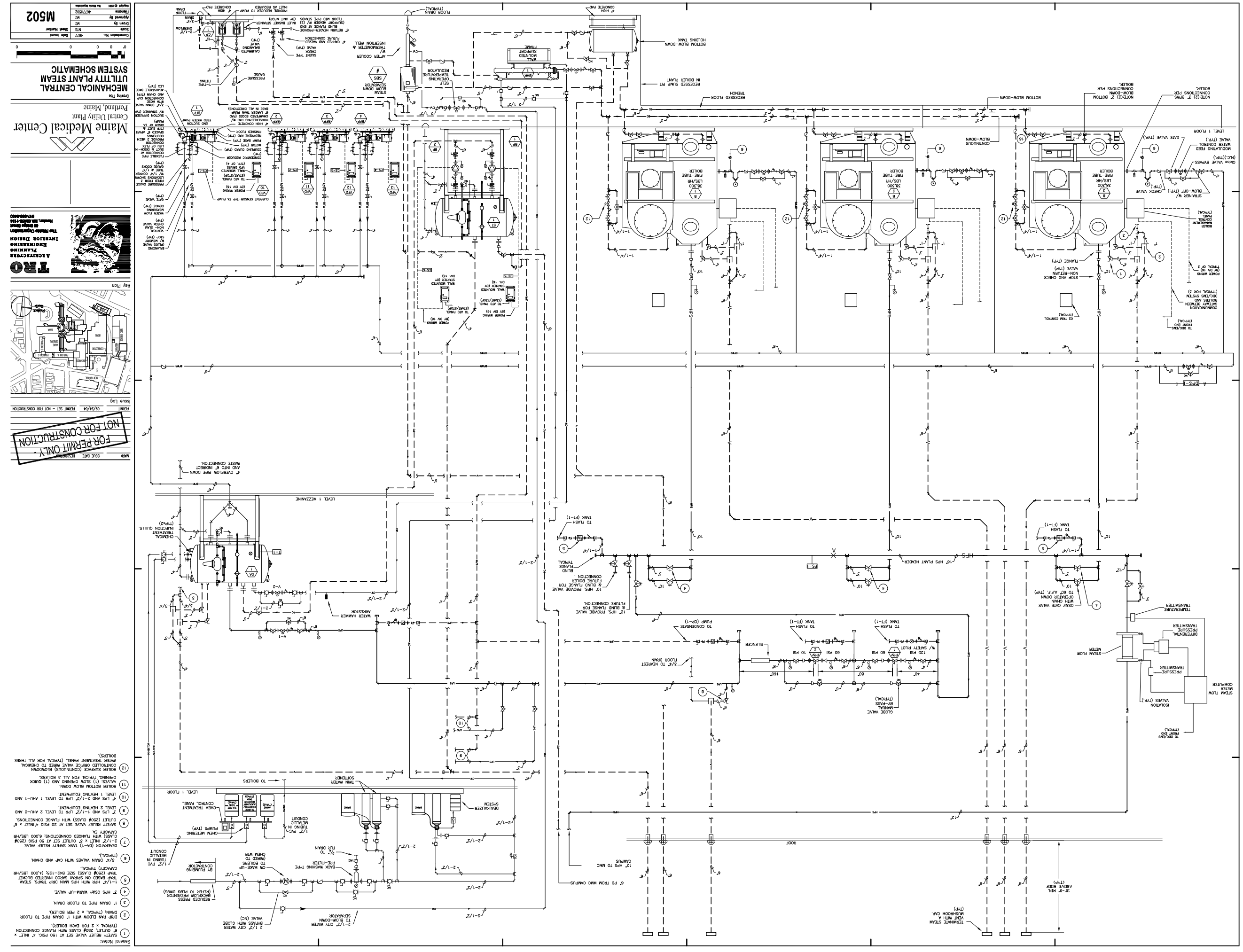
MECHANICAL CENTRAL UTILITY PLANT STEAM SYSTEM SCHEMATIC
M502
Maine Medical Center
Central Utility Plant
Portland, Maine
TRIO
ARCHITECTURE PLANNING ENGINEERING INTERIOR DESIGN
The Helm Corporation
80 Maple Street
Stoneham, MA 02180-1154
617-438-9400
Key Plan
Issue Log
09/24/04 PERMIT SET - NOT FOR CONSTRUCTION
FOR PERMIT ONLY - NOT FOR CONSTRUCTION
Construction No. 4577 Date Issued
Scale NTS Sheet Number
Drawn By VJC
Approved By VJC
Telephone 4577M02
Sample ID 2004 To be Data Stamped
0 0 0 0
1" HPS OSAW WARM-UP VALVE.
1-1/4" HPR WITH HPS MAIN DRIP TRAPS. STEAM TRAP BASED ON SPIRAX SARCO INTERCEPTOR BUCKET TRAP (250# CLASS) SIZE B42-125. (4,000 LBS/HR CAPACITY) TYPICAL.
1/2" DRAIN VALVES WITH CAP AND CHAIN. (TYPICAL)
DEAERATOR (DA-1) TANK SAFETY RELIEF VALVE 2-1/2" INLET x 3" OUTLET SET AT 50 PSIG (250# CLASS) WITH FLANGED CONNECTIONS. 6,000 LBS/HR CAPACITY EA.
SAFETY RELIEF VALVE SET AT 20 PSIG 4"INLET x 6" OUTLET (250# CLASS) WITH FLANGE CONNECTIONS.
3" LPS AND 1-1/2" LPR TO LEVEL 2 AHU-2 AND LEVEL 2 HEATING EQUIPMENT.
4" LPS AND 2-1/2" LPR TO LEVEL 1 AHU-1 AND LEVEL 1 HEATING EQUIPMENT.
VALVES: (1) SLOW OPENING AND (1) QUICK OPENING. TYPICAL FOR ALL 3 BOILERS.
BOILER BOTTOM BLOW DOWN.
BOILER SURFACE (CONTINUOUS) BLOWDOWN CONTROLLED ORIFICE VALVE PIPED TO CHEMICAL WATER TREATMENT PANEL. (TYPICAL FOR ALL THREE BOILERS)
General Notes:
1 SAFETY RELIEF VALVE SET AT 150 PSIG 4" INLET x 6" OUTLET. 250# CLASS WITH FLANGE CONNECTION. (TYPICAL x 2 FOR EACH BOILER).
2 DRAIN, (TYPICAL x 2 PER BOILER).
3 1" DRAIN PIPE TO FLOOR DRAIN.
4 DRIP PAN ELBOW WITH 1" DRAIN PIPE TO FLOOR DRAIN.
5 1/2" DRAIN VALVES WITH CAP AND CHAIN.
6 PD FROM WMC CAMPUS
1" HPS TO WMC CAMPUS
7 1/4" DRAIN VALVE (PLUG VALVE W/ 3/4" DRAIN) TYPICAL
8 3/4" FLR DRAIN
9 2-1/2" CITY WATER TO BLOW-DOWN SEPARATOR
2 1/2" CITY WATER BYPASS WITH GLOBE VALVE (NO)
REDUCED PRESS BACKFLOW PREVENTOR (REPEAT TO PLBG DWGS)
BY PLUMBING CONTRACTOR
CW MAKE-UP TO BOILERS
(MEED TO CHECK MFR
BACK WASHING TYPE PRE-FILTER
TO BOILERS
TWIN WATER SOFTENER
SCALAUZER SYSTEM
CHECK METERING PUMPS (TYP)
CHEM TREATMENT CONTROL PANEL
1/2" PVC TUBING IN METALLIC CONDUIT
LEVEL 1 MEZZANINE
LEVEL 1 FLOOR
ROOF
10'-0" MIN ABOVE ROOF (TYP)
TERMINATE STEAM VENT WITH A WISHROOM CAP. (TYP)
OVERFLOW PIPE DOWN AND INTO 6" INDIRECT WASTE CONNECTION.
FLOOR DRAIN (TYPICAL)
HIGH CONDENSATE RETURN HEADER W/ (2) INLET BASKET STRAINER
SILENT TYPE CHECK VALVE (TYP)
CALIBRATED BALANCING VALVE (TYP)
PRESSURE GAUGE
Y-TYPE FITTING
HIGH CONDENSATE RETURN HEADER W/ (2) INLET BASKET STRAINER
RETURN HEADER-REDUCE BLIND FLANGE AT END
PUMPED CONDENSATE RETURN HEADER W/ (2) INLET STRAINER
PUMP SUCTION FROM CONDENSATE RECEIVER TANK (CT-1)
DUPLEX CONDENSATE RETURN PUMP SET (CP-1)
CONDENSATE RECEIVER TANK (CT-1)
CONDENSATE RECEIVER VENT THRU ROOF
CONDENSATE RECEIVER OVERFLOW
CONDENSATE RECEIVER DRAIN
CONDENSATE RECEIVER LEVEL GAUGE
CONDENSATE RECEIVER LOW LEVEL ALARM
CONDENSATE RECEIVER HIGH LEVEL ALARM
FLEXIBLE PIPE CONNECTOR AT LEG OF FLEX
CONDENSATE RECEIVER VENT THROUGH ROOF
CONDENSATE RECEIVER & PUMP SET SHOWN ON SEPARATE DWG
SUCTION DIFFUSER W/ STRAINER
DUAL SUCTION MANIFOLD W/ SWING CHECK VALVE & GATE VALVE
DUAL DISCHARGE MANIFOLD W/ SWING CHECK VALVE & GATE VALVE
DISCHARGE PIPE TO BOILER FEED WATER HEADER
CONDENSATE RECEIVER & PUMP SET MOUNTED ON CONCRETE HOUSEKEEPING PAD
CONCRETE HOUSEKEEPING PAD
CONCRETE PAD
FLOOR DRAIN (TYPICAL)
BOTTOM BLOW-DOWN HOLDING TANK
MULL MOUNTED SUPPORT FRAME
AFTER COOLER W/ THERMOMETER & INSERTION WELL
SELF OPERATING TEMPERATURE REGULATOR
STEAM BLOW DOWN SEPARATOR
SEE #
RECESSED SUMP PIT IN BOILER PLANT
RECESSED FLOOR TRENCH
BOTTOM BLOW-DOWN
CONTINUOUS BLOW-DOWN
NOTE:(2) 3" BOTTOM BLOW-DOWN CONNECTIONS PER BOILER.
NOTE:(2) 3" BFWS CONNECTIONS PER BOILER.
LEVEL 1 FLOOR
GATE VALVE (TYP)
MODULATING FEED WATER CONTROL VALVE (TYP.)
STRAINER W/ BLOW-OFF (TYP.) CHECK VALVE (TYP.)
GLOBE VALVE BYPASS (N.C.)(TYP.)
BOILER MANAGEMENT CONTROL PANEL (TYPICAL)
POWER WIRING (BY DIV 16)
TO DDC/EMS FRONT END (TYPICAL)
COMMUNICATION BOILER CONTROL DDC/EMS SYSTEM (TYPICAL FOR 3)
POWER WIRING (BY DIV 16) TYPICAL OF 3
STOP AND CHECK NON-RETURN VALVE (TYP)
FLANGE (TYP)
02 TRAP CONTROL (TYPICAL)
TO DDC/EMS FRONT END (TYPICAL)
36,300 LBS/HR FIRE-TUBE BOILER
B 1
B 2
B 3
ST 1
ST 2
ST 3
DA 1
BFP 1
BFP 2
BFP 3
BFP 4
BFP 5
SBS 1
SBS 2
SBS 3
SBS 4
SBS 5
SBS 6
SBS 7
SBS 8
SBS 9
SBS 10
SBS 11
SBS 12
SBS 13
SBS 14
SBS 15
SBS 16
SBS 17
SBS 18
SBS 19
SBS 20
SBS