

NOTE: ALL PIPING AND EQUIPMENT SHOWN USING LIGHTER LINE STYLE IS EXISTING TO REMAIN. NEW PIPING, PIPE ACCESSORIES, EQUIPMENT AND DEVICES ARE SHOWN USING SOLID LINE STYLE. REFER TO NOTES.

MAKEUP WATER PIPING. REMOVE AND REPLACE HEAT TAPE, INSULATION AND JACKETING.

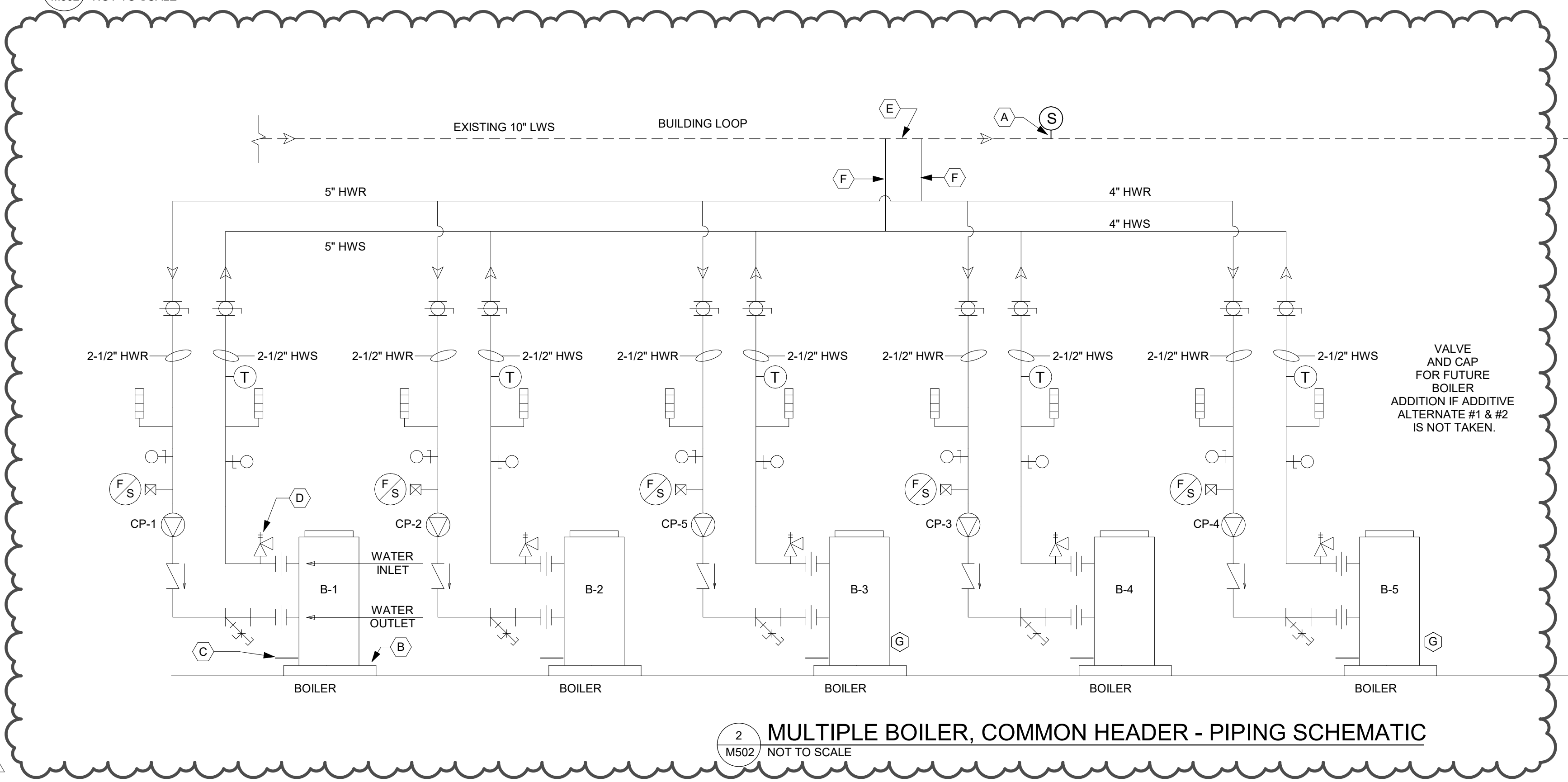
EXIST. COOLING TOWER SUPPORTS CLOSELY MATCHES FOOTPRINT OF BASIS. ADJUST LOCATION OF I-BEAM PER MANUF. INSTALL MANUAL. IF COOLING TOWER FURNISHED HAS A FOOTPRINT DIFFERENT FROM BASIS.

EXIST. SANITARY SEWER PIPING FIELD VERIFY LOCATION

| LEGEND | |
|--------|---------------------------------------|
| | UNION |
| | WATER METER |
| | GATE VALVE |
| | REDUCED PRESSURE BACKFLOW PREVENTER |
| | BUTTERFLY VALVE |
| | BALANCING VALVE |
| | CHECK VALVE |
| | MOTOR OPERATED 2-WAY CONTROL VALVE |
| | PRESSURE GAUGE W/ COCK |
| | THERMOSTAT |
| | SENSOR FOR BUILDING MANAGEMENT SYSTEM |
| | CIRCULATING PUMP |
| | BALL VALVE |
| | FLOW SWITCH |
| | AUTOMATIC AIR VENT |
| | FLEXIBLE CONNECTOR |
| | BALL VALVE |
| | KEYED NOTE INDICATOR |
| | PRESSURE RELIEF VALVE |
| | STRAINER |
| | BUTTERFLY VALVE |
| | DRAIN VALVE |
| | LWR LOOP WATER RETURN |
| | LWS LOOP WATER SUPPLY |
| | CWR CONDENSER WATER RETURN |
| | CWS CONDENSER WATER SUPPLY |
| | HWR HOT WATER RETURN |
| | HWS HOT WATER SUPPLY |
| | PRESSURE REDUCING VALVE |

| SCHEMATIC FLOW DIAGRAM NOTES | |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (A) | NEW SUCTION DIFFUSER - BELL AND GOSSET W/ STAINLESS STEEL FINAL STRAINER & BLOW DOWN CONNECTION. PROVIDE W/ SHUT-OFF VALVE. INSTALL 1 1/4" ADJUSTABLE SUPPORT FOOT. |
| (B) | REPLACE TRUMPET VALVE (FLOW CONDITIONING CORP. TV-3) AND PRESSURE GAGE WITH NEW. |
| (C) | MODIFY/EXTEND EXISTING PIPING TO ALLOW FOR INSTALLATION OF 8" BRAIDED FLEXIBLE CONNECTORS. (TYP. OF 4) |
| (D) | AIR SEPARATOR WITH NEW AIR-DIRT SEPARATOR. RE. SCHEDULE. |
| (E) | REPLACE EXPANSION TANK WITH NEW. RE. SCHEDULE. |
| (F) | REPLACE HEAT TAPE, INSULATION, AND JACKETING. INSTALL RAPID-TRACE HEAT TAPE, 10 WATTS/FOOT 120VAC ON ALL INSULATED OUTDOOR ABOVE GRADE CWS AND CWR. INSTALL RAPID-TRACE HEAT TAPE, 3 WATTS/FOOT 120VAC ON ALL INSULATED OUTDOOR ABOVE GRADE MAKE-UP PIPING. INSTALL AT A RATE OF ONE FOOT OF TRACING FOR ONE FOOT OF PIPE. WRAP VALVES. PROVIDE THERMOSTAT AND SENSING ELEMENT. |
| (G) | REPLACE EXISTING BMS TEMPERATURE SENSOR WITH NEW. |
| (H) | EXISTING 3/4" CHEMICAL TREATMENT CONNECTIONS. NEW CHEMICAL TREATMENT SYSTEM SHALL BE INSTALLED. CONTRACTOR SHALL FLUSH, REFILL, TREAT, AND TEST HYDRONIC SYSTEM. |
| (I) | INSTALL HYDRONIC EQUIPMENT ON 4" THICK CONCRETE EQUIPMENT PAD - TYPICAL FOR PUMPS, BOILERS, HEAT EXCHANGER AND EXPANSION TANK. EXCEPT AS INDICATED ON PLANS, EXTEND AS NECESSARY TO COVER BASE OF NEW UNIT. |
| (J) | REPLACE EXISTING WITH NEW BALANCING VALVE, CHECK VALVE, ISOLATION VALVE (TRIPPLE DUTY VALVES NOT PERMITTED.) |
| (K) | 1" DRAIN LINE WITH BALL VALVE TO NEAREST FLOOR DRAIN. |
| (L) | REPLACE EXISTING TEMPERATURE GAGE WITH NEW. |
| (M) | PRESSURE GAGE - FIELD VERIFY INSTALLATION LOCATION. |
| (N) | FLOW SWITCH - FIELD VERIFY INSTALLATION LOCATION. |
| (O) | Y-STRAINER. |
| (P) | REPLACE HEAT EXCHANGER WITH NEW. REFER TO MANUFACTURER'S PUBLISHED LITERATURE FOR CONFIGURATION OF HOT SIDE AND COLD SIDE HOOK-UP. |
| (Q) | REPLACE AUTOMATIC AIR VENT WITH NEW. |
| (R) | INSTALL NEW ISOLATION VALVES IN HYDRONIC LOOP PIPING PRIOR TO EXITING MECHANICAL ROOM. |
| (S) | 3/4" SHOT FEEDER FOR BUILDING LOOP INSTALLED ACROSS ONE OF THE TWO PUMPS. |
| (T) | INSTALL A NEW DIFFERENTIAL PRESSURE (DP) SENSOR IN THE BUILDING LOOP FOR VARIABLE PUMPING APPLICATION. LOCATE THE DP SENSOR NEAR THE FARTHEST ZONE, NEAR THE END OF THE PIPING RUN. FIELD COORDINATE FINAL LOCATION WITH JOHN SUMMERFIELD, HVAC BUILDING MAINTENANCE TECH, CITY OF AUSTELL. PROVIDE NEW TAPWELL FOR NEW PRESSURE TRANSDUCER. FIELD ESTABLISH THE DIFFERENTIAL PRESSURE SETPOINT, AND CONTROL BUILDING PUMP VFD TO MAINTAIN DIFFERENTIAL PRESSURE SETPOINT. |

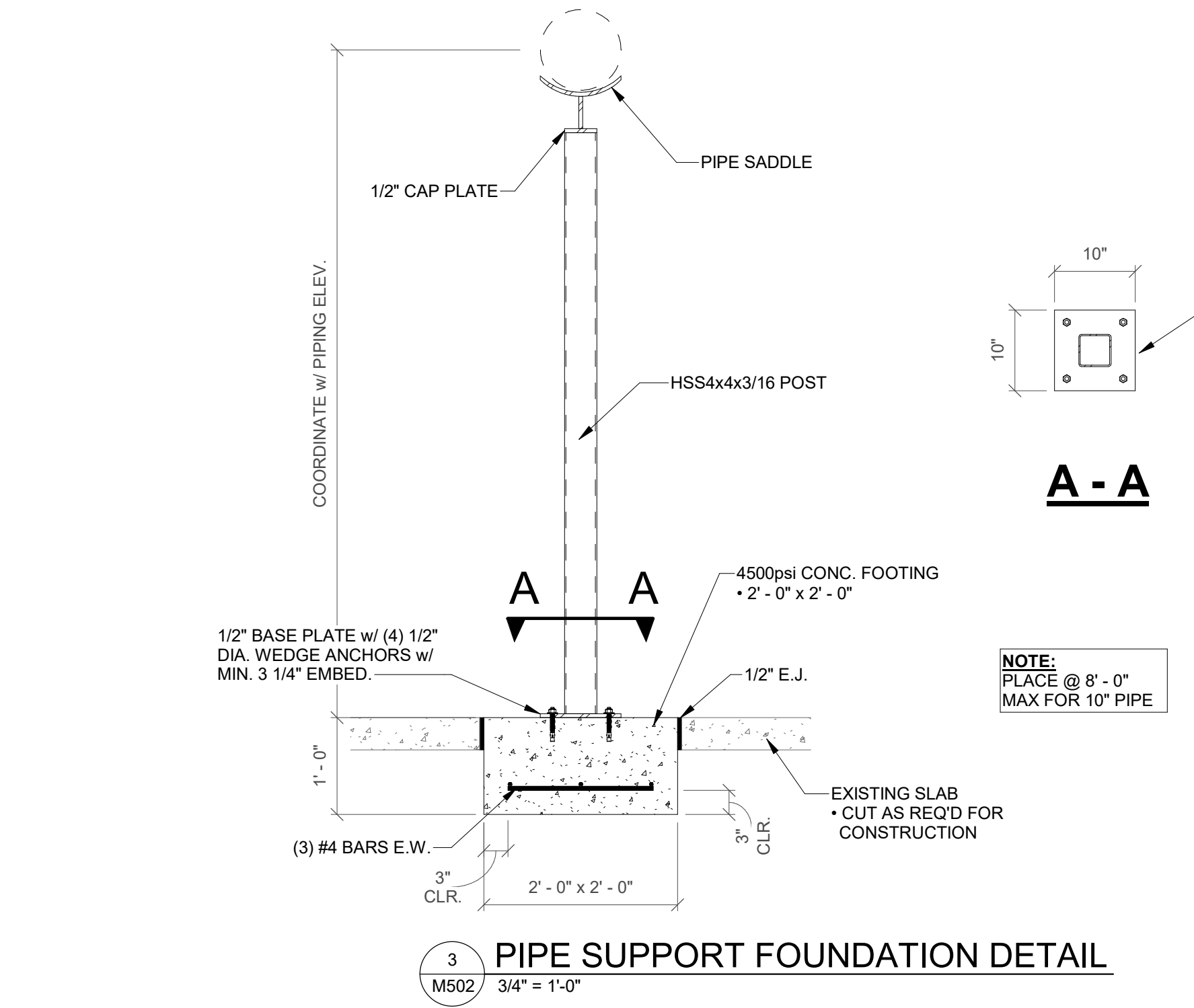
1 WATER SOURCE HYDRONIC SCHEMATICS
M502 NOT TO SCALE



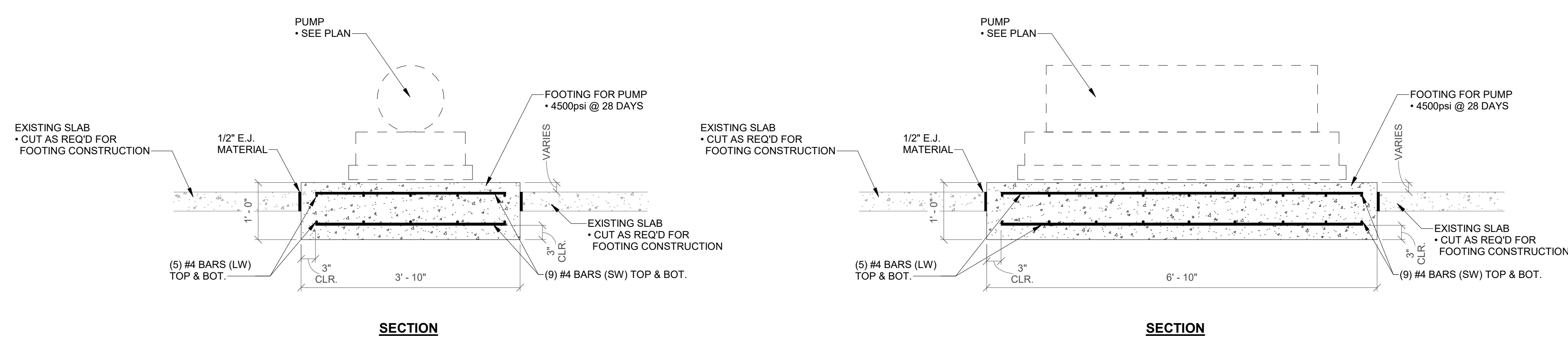
NOTES: HOT WATER SYSTEM
1. REFER TO SPECIFICATIONS FOR SIZE, INSULATION, SUPPORTS AND WEATHER PROTECTION REQUIREMENTS.
2. REFER TO MANUFACTURER'S PUBLISHED LITERATURE FOR CLEARANCE, GAS, WATER, COMBUSTION AIR AND FLUE VENT PIPING SIZING AND REQUIREMENTS.

KEYED NOTES: SCHEMATIC DIAGRAM NOTES
A. LOCATE SENSOR A MINIMUM OF FIVE (5) FEET DOWNSTREAM OF JUNCTION.
B. INSTALL BOILER ON NEW 4" THICK CONCRETE EQUIPMENT PAD - TYPICAL FOR PUMPS, BOILERS, HEAT EXCHANGER AND EXPANSION TANK.
C. CONDENSATE DRAIN AND RELIEF VALVE DRAIN PIPE ROUTED TO NEAREST FLOOR DRAIN. CONDENSATE DRAIN FULL SIZE OF COLLAR. PITCH THE CONDENSATE DRAIN PIPING AWAY FROM THE BOILER (1/4" SLOPE PER FOOT). PROVIDE ACID NEUTRALIZATION KIT.
D. PROVIDE ASME RATED PRESSURE RELIEF VALVE AND DRAIN ON BOILER DISCHARGE SIDE IF NOT FACTORY INSTALLED IN BOILER.
E. COMMON PIPE - LENGTH BETWEEN THE CLOSE TEES IS 12".
F. CONDENSING BOILER HEADER PIPING. SEE PLANS FOR ACTUAL LAYOUT.
G. FURNISH AND INSTALL BOILER B-4, B-5, AND ASSOCIATED CIRCULATION PUMPS CP-4 AND CP-5 ONLY IF ADDITIVE ALTERNATE IS TAKEN. OTHERWISE, VALVE AND CAP HWS/HWR/NATURAL GAS CONNECTIONS FOR FUTURE INSTALLATION.

2 MULTIPLE BOILER, COMMON HEADER - PIPING SCHEMATIC
M502 NOT TO SCALE



3 PIPE SUPPORT FOUNDATION DETAIL
M502 3/4" = 1'-0"



4 TYPICAL PUMP FOUNDATION SECTIONS
M502 3/4" = 1'-0"

TRUE NORTH

8 0 8 16
SCALE: 1/8" = 1'-0"

| | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|
| SA&E PROJECT NUMBER | 01-415-001 |
| BID PACKAGE | BP-1 |
| ISSUED FOR CONSTRUCTION | 08-23-2023 |
| Southern A&E | |
| architects & engineers | |
| 7951 Troon Circle Austell, Ga 30168 (770) 819-7777 | R# Doc# Date 1 AD2 09/08/23 2 AD3 10/06/23 |
| © COPYRIGHT 2023 BY SOUTHERN A&E, LLC. ALL RIGHTS RESERVED. THIS DOCUMENT IS THE PROPERTY OF SOUTHERN A&E, LLC AND SHALL NOT BE COPIED OR REPRODUCED IN WHOLE OR IN PART WITHOUT EXPRESSED WRITTEN CONSENT FROM SOUTHERN A&E, LLC. | |
| REPLACEMENT OF COOLING TOWER & BOILER: THREADMILL COMPLEX | |
| 5000 AUSTELL POWDER SPRINGS ROAD THE CITY OF AUSTELL 5000 AUSTELL POWDER SPRINGS ROAD | |
| MECHANICAL EQUIPMENT DETAILS | |
| DRAWING NUMBER | |
| M502 | |

STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS
SOUTHERN A & E, LLC
ENGINEER FIRM
LICENSE NO. PE0038650
EXP. DATE: 06/30/2024