

0 4 8 12 16
one eighth inch = one foot
0 4 8
one quarter inch = one foot
0 4 8
three eighths inch = one foot
0 4 8
one half inch = one foot
0 4 8
three quarters inch = one foot
0 4 8
one inch = one foot
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one and one half inches = one foot
0 4 8
two inches = one foot
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three inches = one foot
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four inches = one foot
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five inches = one foot
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six inches = one foot
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seven inches = one foot
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eight inches = one foot
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nine inches = one foot
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ten inches = one foot
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eleven inches = one foot
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twelve inches = one foot

0 4 8
three inches = one foot

0 4 8
one and one half inches = one foot

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one inch = one foot

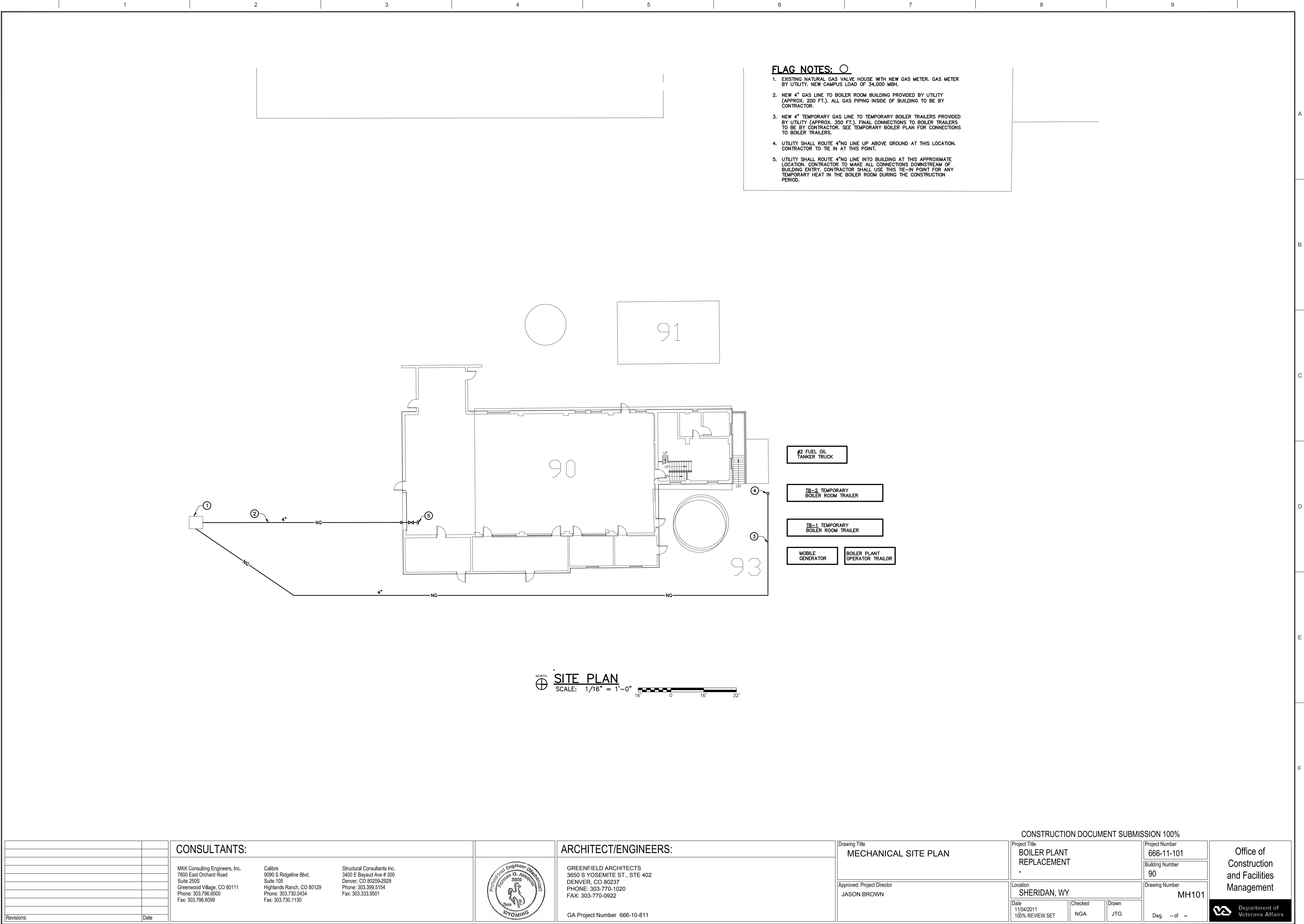
0 4 8
three quarters inch = one foot

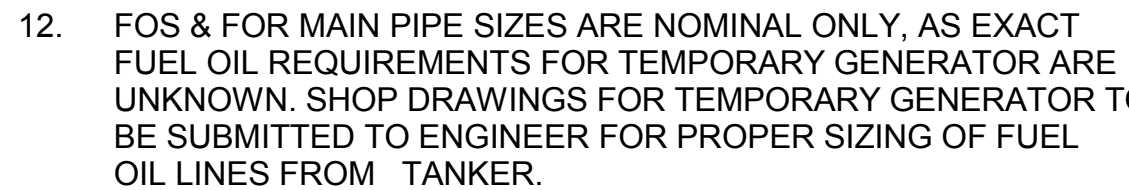
0 4 8
one half inch = one foot

0 4 8
three eighths inch = one foot

0 4 8
one quarter inch = one foot

0 4 8
one eighth inch = one foot

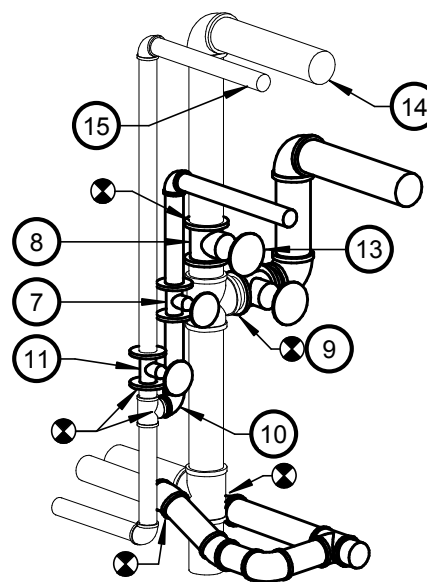




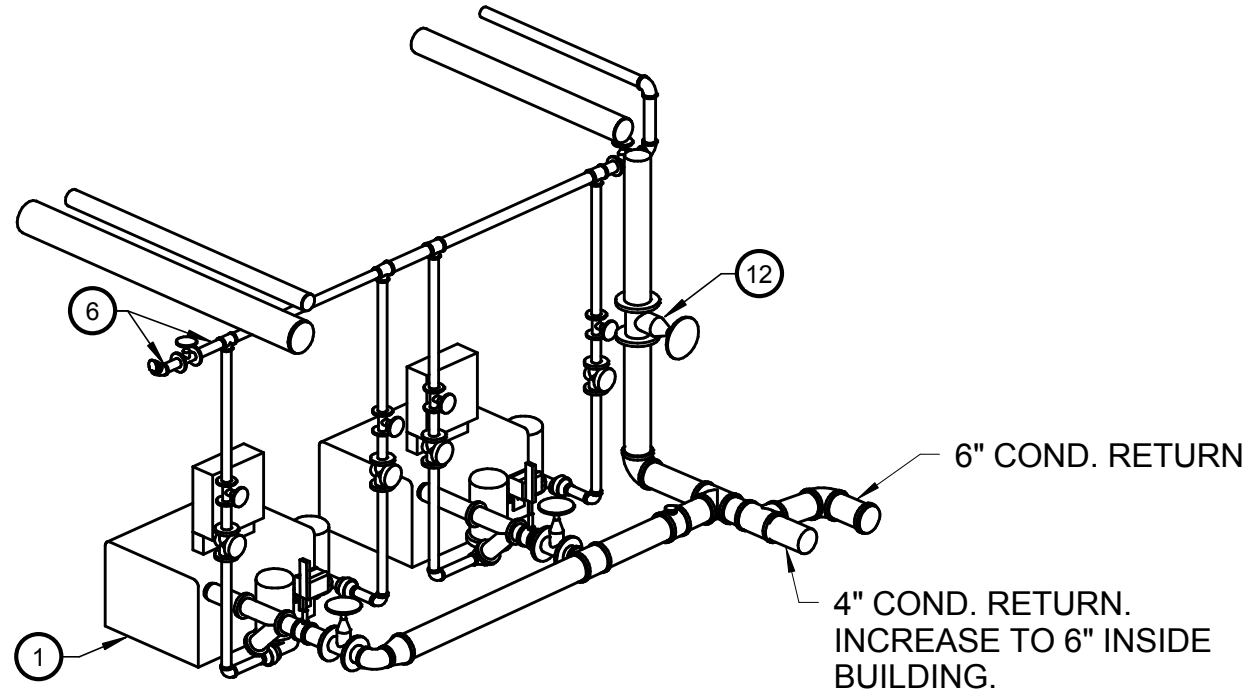
SYSTEM SHUT DOWN SHALL BE LIMITED TO 2-HOUR INTERVALS COORDINATED WITH VA FOR INSTALLATION OF ISOLATION VALVES. TEMPORARY BOILERS ARE TO BE STARTED UP AND CHECKED BEFORE EXISTING GAS BOILER IS TO BE SHUT DOWN. WHEN NEW SYSTEM IS OPERATIONAL, THE EXISTING GAS BOILER SHALL BE SHUT DOWN. COMPONENTS ARE TO BE TESTED PRIOR TO SHUTDOWN OF TEMPORARY BOILERS. TEMPORARY BOILERS TO BE ON SITE AND WARM FOR THE ENTIRE STARTUP AND CHECKOUT PROCESS. THIS IS ESTIMATED TO BE AT LEAST A MONTH LONG PROCESS. IF GREATER THAN A MONTH, THE CONTRACTOR SHALL HAVE BOILERS AVAILABLE AND PAID FOR THE ENTIRE PROCESS. LESS THAN A MONTH, THE BOILERS SHOULD BE ON SITE FOR A FULL MONTH READY TO RUN IF NECESSARY.

- FLAG NOTES: ☐
- SEE SCHEDULE AND DETAIL FOR ADDITION CONDENSATE PUMP INFORMATION. CONDENSATE PUMPS SHALL SIT ON FINISHED FLOOR, TO ALLOW FOR PROPER CONDENSATE SLOPE.
 - MOTORS FOR AUGERS TO BE LOCATED INSIDE THE BUILDING IN PIT.
 - 60"x60" FLOOR OPENING WITH COVER PROVIDED BY STRUCTURAL. RE: STRUCTURAL DRAWINGS.
 - TERMINATE SIDEWALL VENTS MINIMUM OF 12' AFG WITH DOWN TURNED 45 DEGREE ELBOW.
 - EXISTING WATER SOFTENER SYSTEM TO BE REPLACED WITH NEW MARLO MODEL MR-300-2 TWIN ALTERNATING WATER SOFTENER.
 - TEMPORARY BOILER CONDENSATE CONNECTION. VALVE TO REMAIN. REMOVE TEMPORARY PIPING AFTER CONSTRUCTION.
 - NEW VALVE IN EXISTING 4" HPS PIPE.
 - NEW VALVE IN EXISTING 8" MPS PIPE.
 - MPS PIPE CONNECTION FROM NEW BOILER PLANT.
 - HPS PIPE CONNECTION FROM NEW BOILER PLANT.
 - NEW SHUT OFF VALVE IN EXISTING HPS. ONCE CONSTRUCTION IS COMPLETE REMOVE OLD PIPING.
 - SHUT OFF VALVE FROM BUILDING CONDENSATE.
 - NEW SHUT OFF VALVE IN EXISTING MPS. ONCE CONSTRUCTION IS COMPLETE REMOVE OLD PIPING.
 - EXISTING 8" MPS TO BE USED FOR TEMPORARY HEAT.
 - EXISTING 4" HPS TO BE USED FOR TEMPORARY HEAT.
 - 6" HPS, 2" COND., 2" CW, & 1-1/2" COMPRESSED AIR PIPING THROUGH WINDOW AND OUT TO TEMPORARY BOILER. SEE TEMPORARY BOILER PLAN FOR CONTINUATION.
 - 6" HPS TEMPORARY CONNECTION TO EXISTING 8"HPS.
 - REQUIRED CLEARANCE TYPICAL.
 - 4" HPS (E) TO TUNNEL FOR TEMPORARY USE.
 - CONNECT TO LPS SUPPLY TO DEAEATOR.
 - ROUTE 1-1/2" COMPRESSED AIR PIPING AND TIE INTO EXISTING 2" COMPRESSED AIR PIPING ON MEZZANINE LEVEL ABOVE.

22. HT-1 HEAT TRACE CONTROLLER.



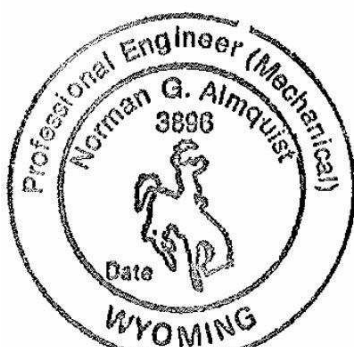

2 STEAM & CONDENSATE ENTRY ISOMETRIC



3 CONDENSATE PUMPS ISOMETRIC

1 (E)1984 44 PUMP ROOM MECHANICAL PLAN
1/4" = 1'-0"

CONSTRUCTION DOCUMENTATION SUBMISSION - BIDDING & CONTRUCTION

CONSULTANTS:				ARCHITECT/ENGINEERS:	Drawing Title 44.0 PUMP ROOM MECHANICAL PLAN	Project Title -BOILER PLANT -REPLACEMENT		Project Number - 666-11-101		Office of Construction and Facilities Management	
MKK Consulting Engineers, Inc. 7600 East Orchard Road Suite 250S Greenwood Village, CO 80111 Phone: 303.796.6000 Fax: 303.796.6099				GREENFIELD ARCHITECTS 3650 S YOSEMITE ST., STE 402 DENVER, CO 80237 PHONE: 303-770-1020 FAX: 303-770-0922		Approved: Project Director JASON BROWN		Location - SHERIDAN, WY			Building Number - 90
Revisions:				GA Project Number 666-10-811		Date 12/15/2011 BIDDING & CNSTN	Checked NGA	Drawn EPH/LAC	Drawing Number MH103 Dwg. of --		
Date											

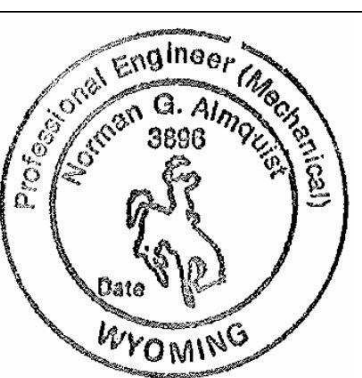

FLAG NOTES: ○

1. AC-#: AIR COMPRESSOR. SEE SCHEDULE FOR CAPACITY, TYPICAL.
2. 4" CONCRETE PAD FOR AIR COMPRESSORS AND DRYERS. SEE STRUCTURAL DRAWING FOR INFORMATION, TYPICAL.
3. EXISTING THROUGH THE WALL HEAT PUMP TO REMAIN.
4. BH-#: BAGHOUSE. SEE SCHEDULE FOR CAPACITY INFORMATION..
5. ABOVE GRADE AUGER PROVIDED BY BOILER MANUFACTURER.
6. SEE PUMP DETAIL FOR CONNECTION & PIPING INFORMATION. SEE SCHEDULE FOR ADDITIONAL PUMP INFORMATION.
7. ASH DISCHARGE FROM DUST COLLECTOR INTO AUGER PROVIDED BY BOILER MANUFACTURER.
8. ASH DISCHARGE FROM BOILER AUGER PROVIDED BY BOILER MANUFACTURER INTO AUGER AG-2.
9. MAINTAIN 3'-0" CLEARANCE.
10. SEE PUMP ROOM MECHANICAL PLAN FOR CONTINUATION.
11. EXISTING PRV STATION TO REMAIN IN USE DURING CONSTRUCTION OF BOILER PLANT. SEE DESCRIPTION OF TEMPORARY SERVICES DURING CONSTRUCTION FOR DETAIL. UTILIZE EXISTING DRIP TRAPS FOR PRV DURING CONSTRUCTION.
12. AUGER CONTROL PANELS.
13. DRAIN SAMPLE COOLER TO MOP SINK.
14. NEW VALVE IN EXISTING HPS PIPE.
15. TEMPORARY BOILER STEAM PIPE CONNECTION.
16. REQUIRED CLEARANCE, TYPICAL.
17. RT-1 AND RT-5 TO BE HUNG FROM STRUCTURE. BOTTOM OF TANK TO BE 9 FEET ABOVE BOILER ROOM FLOOR. RE: STRUCTURAL.
18. SEE SHEET MH106 FOR WORK IN THIS AREA.
19. BAS CONTROL PANEL.
20. ALTERNATE BAS CONTROL PANEL LOCATION.
21. BOILER CONTROL PANEL.
22. UTILITY SHALL ROUTE 4" NG MAIN INTO BUILDING AND PROVIDE SHUT-OFF VALVE. SEE SHEET MH101 FOR PIPING CONTINUATION OUTSIDE OF BUILDING BY UTILITY. NG ROUTING TO BOILER SHALL BE BY CONTRACTOR.

1 52.0 BOILER ROOM MECHANICAL PLAN
1/4" = 1'-0"

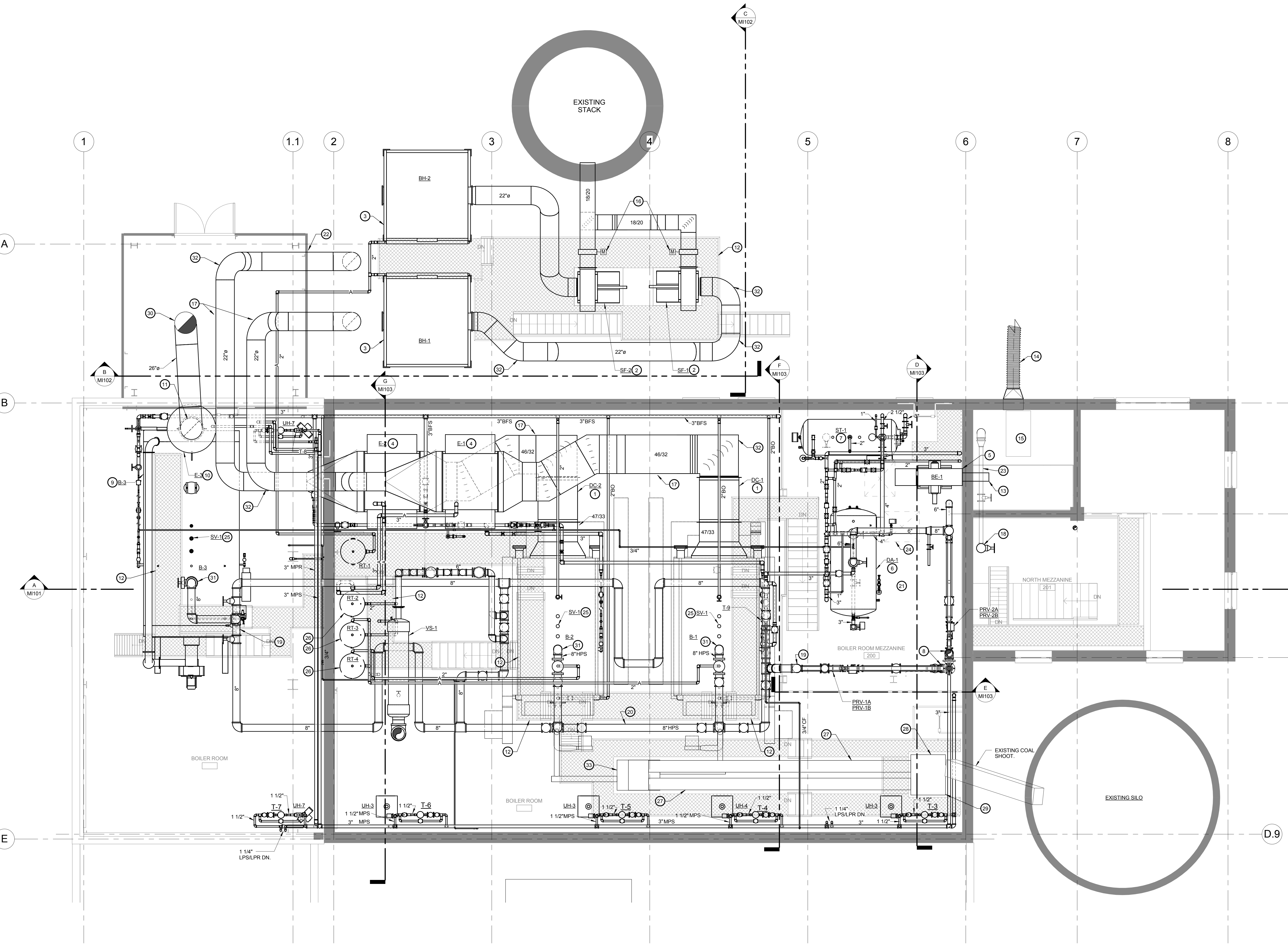
2 EXISTING PRV STATION ISOMETRIC

CONSTRUCTION DOCUMENTATION SUBMISSION - BIDDING & CONTRUCTION

CONSULTANTS: MKK Consulting Engineers, Inc. 7600 East Orchard Road Suite 250S Greenwood Village, CO 80111 Phone: 303.796.6000 Fax: 303.796.6099 Calibre 9090 S Ridgeline Blvd. Suite 105 Highlands Ranch, CO 80129 Phone: 303.730.0434 Fax: 303.730.1130 Structural Consultants Inc. 3400 E Bayaud Ave # 300 Denver, CO 80209-2929 Phone: 303.399.5154 Fax: 303.333.9501				ARCHITECT/ENGINEERS: GREENFIELD ARCHITECTS 3650 S YOSEMITE ST., STE 402 DENVER, CO 80237 PHONE: 303-770-1020 FAX: 303-770-0922 GA Project Number 666-10-811	Drawing Title 52.0 MAIN LEVEL BOILER ROOM MECHANICAL PLAN Approved: Project Director JASON BROWN	Project Title -BOILER PLANT -REPLACEMENT - Location - SHERIDAN, WY Date 12/15/2011 BIDDING & CNSTN	Project Number - 666-11-101 Building Number - 90 Drawing Number MH104 Dwg. of --	Office of Construction and Facilities Management 																		
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twelve inches = one foot

- FLAG NOTES:**
1. **DC-#:** DUST COLLECTOR (SPARK ARRESTOR). SEE SCHEDULE FOR CAPACITY INFORMATION. PROVIDE DUCT TRANSITION FROM BOILER OUTLET TO DUST COLLECTOR INLET AND ROTARY AIR LOCK ON BOTTOM OF COLLECTOR, TYPICAL.
 2. **SF-#:** STACK FAN. SEE SCHEDULE FOR CAPACITY INFORMATION. FAN TO BE LOCATED ON CONCRETE PAD. SEE STRUCTURAL DRAWINGS FOR PAD DETAILS, TYPICAL.
 3. **BH-#:** BAGHOUSE. SEE SCHEDULE FOR CAPACITY INFORMATION. BAGHOUSE TO BE PROVIDED WITH ROTARY AIR LOCK. BAG HOUSE TO BE FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR.
 4. **E-#:** ECONOMIZER. SEE SCHEDULE FOR CAPACITY INFORMATION. ECONOMIZER TO BE SUPPORTED FROM FLOOR. SEE STRUCTURAL DRAWINGS FOR SUPPORT INFORMATION.
 5. **BE-1** BUCKET ELEVATOR FOR ASH COLLECTION SYSTEM. BUCKET TO DISCHARGE INTO EXISTING ASH COLLECTION ROOM. PROVIDE DISCHARGE EXTENSION AS NEEDED TO ENSURE ASH IS DISCHARGED INTO COLLECTION ROOM.
 6. **DA-1:** DEAERATOR. SEE SCHEDULE FOR ADDITIONAL INFORMATION. FURNISH WITH 24" STAND. PIPE PER MANUFACTURERS SPECIFICATIONS.
 7. **ST-1:** SURGE TANK. SEE SCHEDULE FOR ADDITIONAL INFORMATION. FURNISH WITH 24" STAND. PIPE PER MANUFACTURERS SPECIFICATIONS.
 8. SEE DETAIL FOR PRV STATION PIPING REQUIREMENTS.
 9. **B-3:** NATURAL GAS FIRE-TUBE BOILER. SEE SCHEDULE FOR ADDITIONAL INFORMATION.
 10. **E-3:** ECONOMIZER. SEE SCHEDULE FOR CAPACITY INFORMATION. SEE STRUCTURAL DRAWINGS FOR SUPPORT INFORMATION.
 11. BOILER FLUE SHALL ELBOW IMMEDIATELY AFTER ECONOMIZER. OUTLET AND BE ROUTED OVER TO EXISTING FLUE PENETRATION IN ROOF.
 12. CATWALK ROUTING, TYPICAL. SEE STRUCTURAL AND ARCHITECTURAL DRAWINGS FOR LADDER AND STAIR DETAILS. RE: STRUCTURAL AND ARCHITECTURAL DRAWINGS FOR ALTERNATE CATWALK PLAN.
 13. ASH DISCHARGE EXTENSION AS REQUIRED FROM BUCKET ELEVATOR TO ENSURE ASH IS PROPERLY DUMPED INTO EXISTING HOPPER ROOM.
 14. NEW 22" FLEXIBLE, CORRUGATED HOSE FOR ASH DISCHARGE. PROVIDE WITH RESTRAINING DEVICE TO HOLD DUCT ON WALL WHILE NOT IN USE. SIZE OF HOSE TO MATCH EXISTING ASH DISCHARGE GATE.
 15. EXISTING ASH ROOM TO REMAIN. SEAL OFF ALL OPENINGS NOT REUSED WITH PLATE STEEL AND BOLTS.
 16. MOTORIZED CONTROL DAMPER.
 17. FLUE FOR BOILERS 1 AND 2 TO BE FIELD FABRICATED STEEL SINGLE WALL FLUE SYSTEM WITH CALCIUM SILICATE INSULATION. OUTSIDE OF BUILDING, COVER INSULATION WITH ALUMINUM JACKET.
 18. NEW SHUTOFF VALVE IN 8" HPS SUPPLY TO PRV STATION FROM EXISTING BOILER PLANT. SEE DESCRIPTION OF TEMPORARY SERVICES DURING CONSTRUCTION FOR DETAIL. RETURN VALVE TO BUILDING STOCK AFTER USE.
 19. ANCHOR POINTS FOR STEAM HEADER. SEE PIPE ANCHOR DETAIL.
 20. COLD SPRING EACH SECTION OF STEAM HEADER TO ONE HALF MAXIMUM DEFLECTION. MAXIMUM DEFLECTION IS 2.5 INCHES PER 100 FEET.
 21. REPLACE AND RECONNECT MAKEUP AIR UNIT HEAT EXCHANGER AND PUMP. RECONNECT ALL ELECTRICAL, STEAM AND WATER LINES TO PROVIDE A FUNCTIONING SYSTEM.
 22. PIPING AND DUCTWORK TO EXIT BUILDING ABOVE DOORWAY. MAINTAIN CLEARANCES FOR DOORWAY.
 23. RETAIN EXISTING PRV FOR TEMPORARY SERVICE DURING CONSTRUCTION.
 24. REQUIRED CLEARANCE, TYPICAL.
 25. BOILER STEAM SAFETY VALVES PROVIDED BY MANUFACTURER AND PIPED THROUGH ROOF BY CONTRACTOR.
 26. **RT-2 RT-3 RT-4** TO BE HUNG FROM STRUCTURE. BOTTOM OF TANK TO BE 18 FEET ABOVE MAIN BOILER ROOM FLOOR. RE: STRUCTURAL
 27. COAL FEED AUGER PROVIDED BY BOILER MANUFACTURER. AUGER'S SHALL BE REDUNDANT, AND PROVIDED WITH INDIVIDUAL CONTROL PANELS INTERLOCKED WITH CONTROL PANELS TO MONITOR COAL FEED RATE AS REQUIRED. AUGERS SHALL BE SIZED TO DELIVER UP TO 1,500 LBS/HR. OR AS RECOMMENDED BY BOILER MANUFACTURER. SEE STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION REGARDING SUPPORTING STRUCTURE.
 28. AUGER RECEIVER HOPPER PROVIDED BY BOILER MANUFACTURER. EXISTING COAL DELIVERY CHUTE SHALL BE SHORTENED AND RESUPPORTED AS REQUIRED TO ACCOMMODATE HEIGHT OF RECEIVER HOPPER. PROVIDE HOPPER WITH REMOVABLE PANEL AT BOTTOM FOR CLEANING AND SERVICE. PROVIDE COAL CHUTE WITH REMOVABLE PANEL ON TOP TO CLEAR BLOCKAGES.
 29. RELOCATE EXISTING COAL FEED GATE AT DISCHARGE OF COAL CHUTE AS REQUIRED DURING CHUTE MODIFICATIONS TO MAINTAIN FUNCTIONALITY.
 30. 26" FLUE THROUGH ROOF. REUSE ROOF PENETRATION FROM EXISTING BOILER FLUE. SEE STACK THROUGH ROOF DETAIL. EXTEND FLUE 10 FT. ABOVE ROOF TO AN ELEVATION OF 94'-7" AND TERMINATE WITH FLUE CAP.
 31. PIPING BETWEEN BOILER AND VALVE SHALL BE ASME RATED.
 32. ALL COAL BOILER FLUE ELBOWS, 45 AND 90 DEGREES, TO BE FLANGED AND REMOVABLE FOR CLEANING, TYPICAL.
 33. PROVIDE SURGE HOPPER WITH REMOVABLE BOTTOM PANEL FOR CLEANING AND SERVICE.



(E1984) 63.5 MEZZANINE MECHANICAL PLAN

CONSTRUCTION DOCUMENTATION SUBMISSION - BIDDING & CONTRUCTION

CONSULTANTS: MKK Consulting Engineers, Inc. 7600 East Orchard Road Suite 250S Greenwood Village, CO 80111 Phone: 303.796.6000 Fax: 303.796.6099 Calibre 9090 S Ridgeline Blvd. Suite 105 Highlands Ranch, CO 80129 Phone: 303.730.0434 Fax: 303.730.1130 Structural Consultants Inc. 3400 E Bayaud Ave # 300 DENVER, CO 80237 PHONE: 303.770.1020 FAX: 303.770.0922			ARCHITECT/ENGINEERS: GREENFIELD ARCHITECTS 3650 S YOSEMITE ST. STE 402 DENVER, CO 80237 PHONE: 303.770.1020 FAX: 303.770.0922 GA Project Number 666-10-811			Drawing Title 63.5 MEZZANINE LEVEL MECHANICAL PLAN Approved: Project Director JASON BROWN		Project Title -BOILER PLANT -REPLACEMENT - Location - SHERIDAN, WY Date 12/15/2011 BIDDING & CNSTN		Project Number - 666-11-101 Building Number - 90 Drawing Number MH105 Dwg. of --		Office of Construction and Facilities Management Department of Veterans Affairs	
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