

CODE ANALYSIS

| APPLICABLE CODES | | | |
|--|------|--|------|
| | Year | | Year |
| International Building Code | 2006 | National Electrical Code | 2005 |
| International Mechanical Code | 2006 | Uniform Code for Building Conservation | |
| International Plumbing Code | 2006 | ADA Accessibility Guidelines | |
| International Fire Code | 2006 | | |
| International Energy Conservation Code | 2006 | | |

A. Occupancy and Group: EXISTING BOILER PLANT *

Change in Use: Yes ___ No Mixed Occupancy: Yes No ___
 Special Use and Occupancy (e.g. High Rise, Covered Mall): BOILER PLANT

B. Seismic Design Category: N/A Design Wind Speed: N/A mph

C. Type of Construction (circle one):

I/A I/B II/A II/B III/A III/B IV/HT V/A V/B

D. Fire Resistance Rating Requirements for the Exterior Walls based on the fire separation distance (in hours): EXISTING BUILDING

North: ___ South: ___ East: ___ West: ___

E. Mixed Occupancies: NO Nonseparated Uses: ___

F. Sprinklers: N/A

Required: NO Provided: NO Type of Sprinkler System: N/A

G. Number of Stories: TWO Building Height: ___

H. Actual Area per Floor (square feet): N/A

I. Tabular Area: N/A

J. Area Modifications: N/A

$$a) A_a = A_t + \left[\frac{A_t I_f}{100} \right] + \left[\frac{A_t I_s}{100} \right] \quad I_f = 100 \left[\frac{F}{P} - 0.25 \right] \frac{W}{30}$$

b) Sum of the Ratio Calculations for Mixed Occupancies:

$$\frac{\text{Actual Area}}{\text{Allowable Area}} \leq 1$$

c) Total Allowable Area for:

- 1) One Story: ___
- 2) Two Story: $A_a(2)$ ___
- 3) Three Story: $A_a(3)$ ___

d) Unlimited Area Building: Yes ___ No ___ Code Section: ___

K. Fire Resistance Rating Requirements for Building Elements (hours). N/A

| Element | Hours | Assembly Listing | Element | Hours | Assembly Listing |
|----------------------------|-------|------------------|----------------------------|-------|------------------|
| Exterior Bearing Walls | | | Floors - Ceiling Floors | | |
| Interior Bearing Walls | | | Roofs - Ceiling Roofs | | |
| Exterior Non-Bearing Walls | | | Exterior Doors and Windows | | |
| Structural Frame | | | Shaft Enclosures | | |
| Partitions - Permanent | | | Fire Walls | | |
| Fire Barriers | | | Fire Partitions | | |
| | | | Smoke Partitions | | |

L. Design Occupant Load: TWO TWO MAN DOOR
 Exit Width Required: ___ Exit Width Provided: TWO 12" 0" ROLL-UP DOORS

M. Minimum Number of Required Plumbing Facilities:

- a) Water Closets - Required (m) 1 (f) ___ Provided (m) 2 (f) ___
- b) Lavatories - Required (m) 1 (f) ___ Provided (m) 2 (f) ___
- c) Bath Tubs or Showers: N/A / EMERGENCY EYE WASH & SHOWER
- d) Drinking Fountains: 1 Service Sinks: 1 SINK TWO COMPARTMENT

FOOTNOTES:

- 1) In case of conflict with the U.S. Department of Justice Federal Registers Parts I through V - ADA Guidelines and specific reference to the International Building Code Accessibility Chapters, the more restrictive requirement shall govern.
- 2) Additional Code Information shall be provided at the discretion of the Building Official for Complex Buildings. Including, but not limited to:
 - a) High Rise Requirements.
 - b) Atriums.
 - c) Performance Based Criteria.
 - d) Means or Egress Analysis.
 - e) Fire Assembly Locator Sheet.
 - f) Exterior and Interior Accessibility Route.
 - g) Fire Stopping, Including Tested Design Number.

SOUTHERN UTAH UNIVERSITY HEAT PLANT CONDENSATE TANK RELOCATION DFCM # 08114730



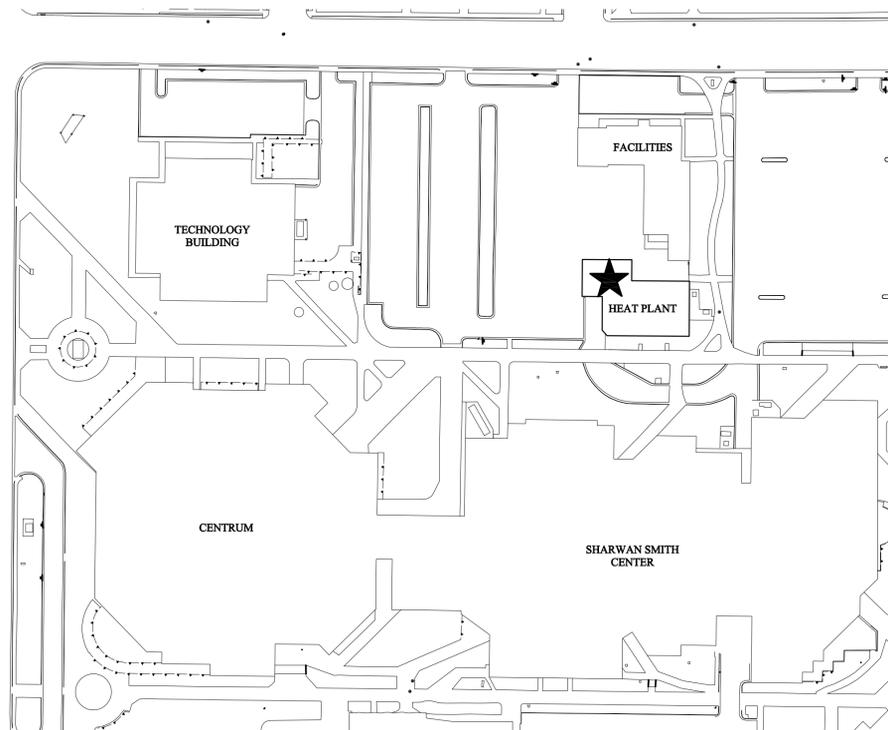
State of Utah—Department of Administrative Services

DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

4110 State Office Building / Salt Lake City, Utah 84114 / 538-3018

DRAWING INDEX:

- M000 - TITLE SHEET
- MG001- MECHANICAL GENERAL NOTES AND LEGEND
- MD401- LARGE SCALE HEAT PLANT DEMOLITION PLAN
- MD402- LARGE SCALE HEAT PLANT DEMOLITION PHOTO'S
- ME401- LARGE SCALE HEAT PLANT PLAN
- ME501- MECHANICAL DETAILS AND SCHEDULES
- ME701- PUMPED CONDENSATE FLOW DIAGRAM



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CONSULTANTS



| MECHANICAL LEGEND | | | | | | | | |
|---------------------|------|--|----------|------|--|---------------|------|---------------------------------|
| SYMBOL | ABR. | DESCRIPTION | SYMBOL | ABR. | DESCRIPTION | SYMBOL | ABR. | DESCRIPTION |
| GENERAL TERMINOLOGY | | | WET SIDE | | | WET SIDE CONT | | |
| | | SECTION LETTER DESIGNATION | | | PUMP | | | PITCH DOWN |
| | | SECTION DRAWN ON THIS SHEET | | | UNION | | | ELBOW UP |
| | | DETAIL NUMBER DESIGNATION CORRESPONDING WITH GRID LOCATION | | | MANUAL ACTUATOR (BALL, BUTTERFLY, NEEDLE, ETC. VALVES) | | | ELBOW DOWN |
| | | MECHANICAL EQUIPMENT DESIGNATION | | | MANUAL ACTUATOR (GATE, GLOBE, S&D, OS&Y, ETC. VALVES) | | | TEE UP |
| | | EQUIPMENT ITEM DESIGNATION | | | | | | TEE DOWN |
| | | REVISION DESIGNATOR AND NUMBER | | | THREADED OR SWEAT VALVE CONNECTION | | | EXISTING PIPING TO BE REMOVED |
| | | KEY NOTE DESIGNATOR AND NUMBER | | | FLANGED VALVE CONNECTION | | | EXISTING PIPING TO REMAIN |
| | POC | POINT OF CONNECTION | | | BUTTERFLY VALVE | | | PIPE CAP OR PLUG |
| | POR | POINT OF REMOVAL | | | GATE VALVE | | | CONCENTRIC REDUCER |
| AFF | | ABOVE FINISHED FLOOR | | | GLOBE VALVE - STRAIGHT PATTERN | | | ECCENTRIC REDUCER |
| CL EL. | | CENTER LINE ELEVATION | | | CHECK VALVE | | | ANCHOR POINT |
| INV. ELEV. | | INVERT ELEVATION | | BV | BALL VALVE | | | DRAIN |
| GC | | GENERAL CONTRACTOR | | | STRAINER | | HPS | HIGH PRESSURE STEAM |
| MC | | MECHANICAL CONTRACTOR | | | STRAINER W/ PLUGGED BLOW OFF | | HPR | HIGH PRESSURE STEAM RETURN |
| ATC | | CONTROL CONTRACTOR | | | PRESSURE GAUGE AND GAUGE COCK - WATER | | PC | PUMPED CONDENSATE |
| EC | | ELECTRICAL CONTRACTOR | | | PRESSURE GAUGE AND GAUGE COCK - STEAM | | IBT | INVERTED BUCKET STEAM TRAP |
| NIC | | NOT IN CONTRACT | | | DIRECTION OF FLOW | | TT | THERMOSTATIC STEAM TRAP |
| NTS | | NOT TO SCALE | | | | | F&T | FLOAT & THERMOSTATIC STEAM TRAP |
| | | | | | | | BFW | BOILER FEED WATER |

GENERAL NOTES:

- G-1 MECHANICAL INFORMATION IS NOT LIMITED TO THE MECHANICAL DRAWINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE INFORMATION, SPECIFICATIONS AND EXISTING CONDITIONS.
- A - EACH DRAWING SHEET AND THE SPECIFICATIONS HAVE BEEN PREPARED TO SUPPLEMENT EACH OTHER AND THEY SHALL BE INTERPRETED AS AN INTEGRAL UNIT WITH ITEMS SHOWN AND NOTED ON ONE AND NOT THE OTHER BEING FURNISHED AND INSTALLED AS THOUGH SHOWN AND CALLED OUT IN ALL PLACES. ITEMS IN SPECIFICATIONS OR DRAWINGS LISTED WHICH ARE DIFFERING IN EFFICIENCY OR QUALITY SHALL BE HELD TO THE GREATEST OF: EFFICIENCY, QUALITY OR GOVERNING CODE.
- B - THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE INSTALLATION OF THE SYSTEMS ACCORDING TO THE TRUE INTENT AND MEANING OF THE CONTRACT DOCUMENTS.
- C - THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT WITH PROPER SERVICE ACCESS AND CLEARANCES ACCORDING TO MANUFACTURERS RECOMMENDATIONS. THE CONTRACTOR SHALL REVIEW SUPPLIERS BID PACKAGES FOR COMPLETENESS AND COMPLIANCE TO THE SPECIFICATIONS, SCHEDULES, AND DESIGN INTENT (ALL EQUIPMENT AND METHODS). THE CONTRACTOR SHALL REMOVE AND REINSTALL CORRECTLY AT HIS OWN EXPENSE ANY EQUIPMENT NOT IN COMPLIANCE.
- D - THE CONTRACTOR SHALL CONSULT MANUFACTURERS INSTALLATION INSTRUCTIONS FOR SIZES, METHODS, ACCESSORIES, AND CLEARANCES IN SPACE AVAILABLE PRIOR TO BIDDING PROJECT.
- E - ANYTHING NOT CLEAR OR IN CONFLICT WILL BE EXPLAINED BY MAKING APPLICATION TO THE ENGINEER IN WRITING.
- G-2 ANY AND ALL ALTERATIONS TO THE SYSTEM SHOWN SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO CHANGES FOR APPROVAL. CONTRACTOR SHALL NOT START ANY CHANGES UNTIL NOTIFIED IN WRITING. IF CHANGES ARE MADE PRIOR TO APPROVAL CONTRACTOR SHALL TAKE ALL RESPONSIBILITY FOR THE CHANGES MADE AND ALL COSTS RELATING TO FAILURE OR REPLACEMENT OF ALTERATIONS.
- G-3 CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND LOCATIONS.
- G-4 THE WORKING DRAWINGS ARE DIAGRAMMATIC. THEY DO NOT SHOW EVERY OFFSET, BEND, OR ELBOW NECESSARY FOR THE COMPLETE INSTALLATION IN THE SPACE PROVIDED. ALL LOCATIONS FOR MECHANICAL EQUIPMENT SHALL BE FIELD VERIFIED AND COORDINATED WITH ALL DRAWINGS.
- G-5 THE INSTRUCTION TO "PROVIDE" ALSO INCLUDES INSTALLATION.
- G-6 THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY IN HANDLING AND DISPOSING OF OILS, ETC. ALL SUCH MATERIALS SHALL BE HANDLED, DISPOSED, AND USED IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL LAWS.
- G-7 SUPPLIERS SHALL REVIEW ALL DRAWINGS AND THE SPECIFICATIONS PRIOR TO SUBMITTING PRICES TO THE CONTRACTOR. ALL QUESTIONS AND DISCREPANCIES SHALL BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO BIDDING.
- G-8 CONTRACTOR SHALL THOROUGHLY REVIEW AND SIGN SUBMITTALS FOR COMPLETENESS AND COMPLIANCE TO THE SPECIFICATIONS PRIOR TO ENGINEERS REVIEW. SUPPLIERS SHALL HIGHLIGHT OR MARK ALL INFORMATION REQUIRED TO SHOW COMPLIANCE TO THE SPECIFICATIONS. ALL REQUESTED EXCEPTIONS TO THE SPECIFICATIONS, OR SCHEDULES SHALL BE CLEARLY NOTED AND EXPLAINED. SUBMITTAL REVIEW AND ACCEPTANCE IS FOR DESIGN CONCEPT ONLY, AND DOES NOT AT ANY TIME RELIEVE THE CONTRACTOR OF RESPONSIBILITY TO MEET SPECIFICATIONS, CAPACITIES, OR DESIGN INTENT.
- G-9 ALL MECHANICAL AND PLUMBING SHALL BE INSTALLED AND CONFORM TO THE 2006 EDITION OF THE IMC AND IPC WITH UTAH ANNOTATIONS AND LOCAL AUTHORITY REQUIREMENTS.
- G-10 THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE DRAINING DOWN AND RE-FILLING OF ALL SYSTEMS NECESSARY TO COMPLETE THE WORK OUTLINED BY THIS PROJECT. THIS INCLUDES PROVIDING THE REQUIRED CHEMICAL TREATMENT WHEN RE-FILLING THE SYSTEM.
- G-11 ALL PIPING, MATERIALS, ETC. SHALL BE NEW AND DOMESTIC MADE UNLESS SPECIFICALLY AUTHORIZED IN WRITING PRIOR TO BID.
- G-12 THIS CONTRACTOR SHALL CONTRACT WITH A DESIGN BUILD ELECTRICAL CONTRACTOR FOR THE DESIGN AND CONSTRUCTION OF THE ELECTRICAL PORTION OF THIS PROJECT. ELECTRICAL INSTALLATION AND DESIGN SHALL BE PER 2006 NEC.

PROJECT NAME & ADDRESS

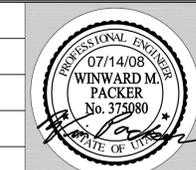
**SOUTHERN UTAH
UNIVERSITY HEAT
PLANT CONDENSATE
TANK RELOCATION**

DFCM No. 08114730

Cedar City, Utah

| MARK | DATE | REVISION |
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PROJECT MANAGER:
WP
DRAWN BY:
LGD
CHECKED BY:
SLW
DATE:
07/14/08
WHW JOB NO.:
08019



SHEET TITLE

**MECHANICAL GENERAL
NOTES AND LEGEND**

SHEET NO.

MG001

CONSULTANTS



WHW
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PROJECT NAME & ADDRESS

**SOUTHERN UTAH
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07/14/08

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08019

SHEET TITLE

**LARGE SCALE HEAT PLANT
DEMOLITION PLAN**

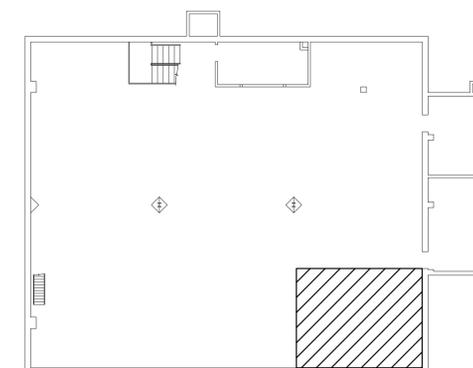
SHEET NO.

MD401

SHEET NOTES:

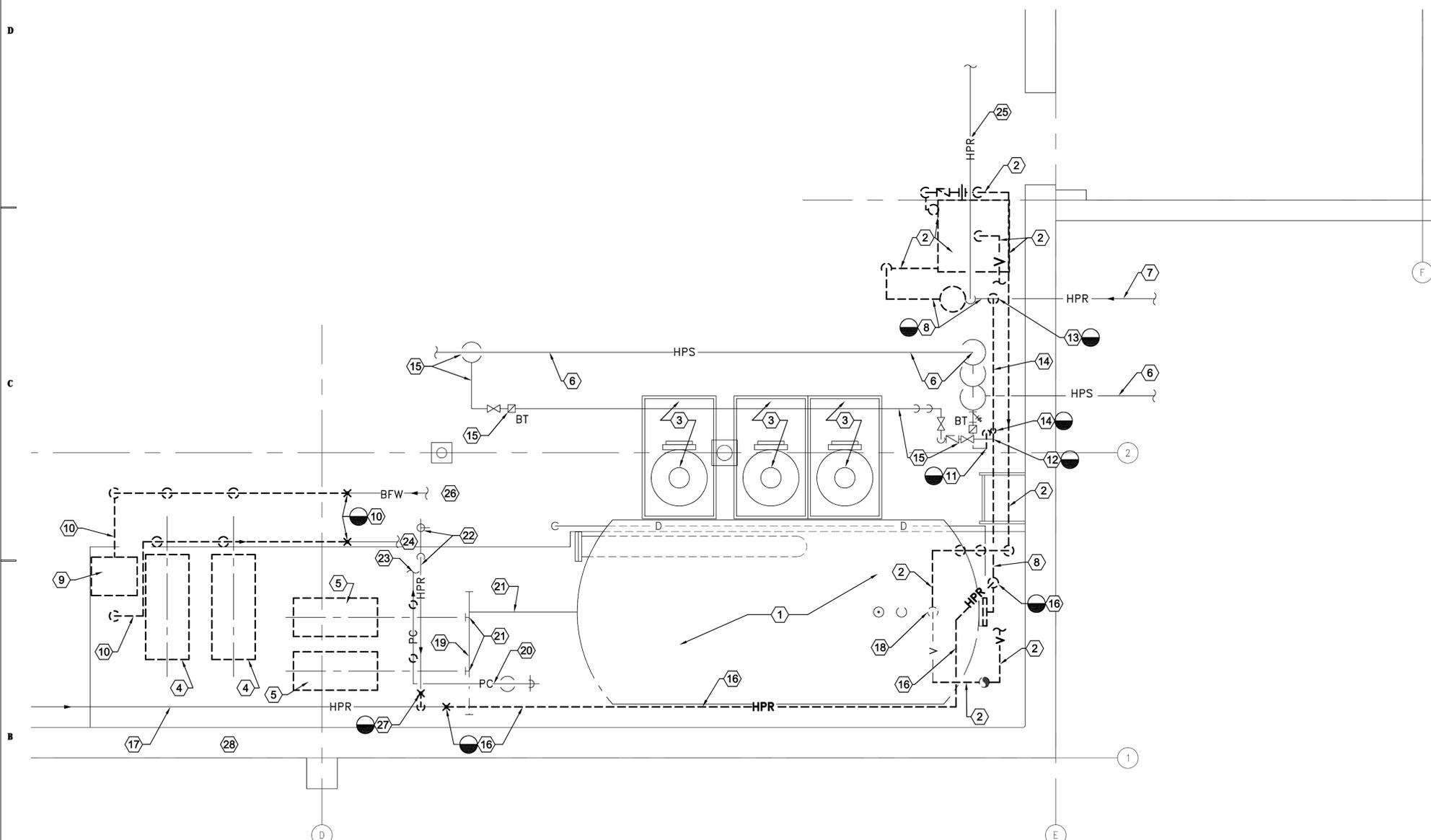
- 1 EXISTING CONDENSATE RECEIVER TANK SHALL REMAIN.
- 2 REMOVE EXISTING CONDENSATE RECEIVER TANK AND PUMP AND ALL ASSOCIATED ITEMS, PIPING, VENT, ELECTRICAL, ETC.
- 3 EXISTING CHEMICAL FEED TANKS AND CARTS SHALL REMAIN. RELOCATE IF REQUIRED.
- 4 REMOVE EXISTING BOILER FEED WATER PUMPS, BASES ETC. CLEAN CONCRETE.
- 5 REMOVE EXISTING CONDENSATE TRANSFER PUMPS, BASES ETC. CLEAN CONCRETE.
- 6 EXISTING HPS PIPING TO EAST SIDE OF CAMPUS SHALL REMAIN.
- 7 EXISTING HPR PIPING FROM EAST SIDE OF CAMPUS SHALL REMAIN.
- 8 REMOVE EXISTING HPR PIPING, VALVES, STRAINERS, ETC. TO THIS POINT INSIDE BOILER ROOM.
- 9 REMOVE AND RELOCATE EXISTING BOILER FEED WATER PUMP. SEE SHEET ME401 FOR NEW LOCATION.
- 10 REMOVE EXISTING BOILER FEED WATER PIPING, VALVES, ETC. FROM PUMP BFP-1,2, AND 3. SEE ME401 FOR NEW PIPING LAYOUT.
- 11 REMOVE EXISTING HPR FROM BOTTOM OF MAIN STEAM HEADER TRAP TO ELBOW. SEE ME401 FOR NEW CONNECTION. TRAP AND VALVES SHALL REMAIN.
- 12 REMOVE EXISTING HPR FROM MAIN STEAM HEADER TRAP OVERHEAD AT THIS LOCATION. SEE SHEET ME401 FOR NEW CONNECTION.
- 13 REMOVE EXISTING HPR FROM NORTH AT THIS LOCATION. THIS PIPING IS LOCATED ABOVE THE 6" MAIN HPR. SEE SHEET ME101 FOR NEW CONNECTION.
- 14 REMOVE THIS SECTION OF HPR FROM THE NORTH LOCATED ABOVE 6" MAIN HPR.
- 15 EXISTING HPR FROM 10" MAIN STEAM HEADER DRIP LEG, TRAP AND VALVES SHALL REMAIN.
- 16 REMOVE EXISTING HPR FROM WEST SIDE OF CAMPUS FROM THIS POINT TO TANK CONNECTION.
- 17 EXISTING HPR FROM WEST CAMPUS SHALL REMAIN.
- 18 CAP TEE AT THIS POINT OF CONNECTION.
- 19 EXISTING CONDENSATE SUCTION HEADER SHALL REMAIN.
- 20 EXISTING PUMPED CONDENSATE PIPING AND PUMP SHALL REMAIN.
- 21 EXISTING SUCTION PIPE SHALL REMAIN AND BE MODIFIED TO FIT NEW PUMPS. SEE ME401 FOR CONTINUATION
- 22 EXISTING HPR FROM STEAM TRAP SERVING HEATER IN TANK SHALL REMAIN TO POINT SHOWN.
- 23 EXISTING PUMPED CONDENSATE TO DEAERATOR SHALL REMAIN. MODIFY TO FIT NEW PUMPS. SEE SHEET ME401.
- 24 EXISTING BOILER FEED WATER TO BOILERS SHALL REMAIN. MODIFY TO FIT NEW PUMPS. SEE SHEET ME401.
- 25 EXISTING HPR FROM NORTH END TO POINT SHOWN SHALL REMAIN. SEE NOTE 13.
- 26 EXISTING BOILER FEED WATER FROM EXISTING DEAERATOR SHALL REMAIN AND BE MODIFIED AS SHOWN ON ME401.
- 27 REMOVE FROM THIS POINT TO CONNECTION IN EXISTING HPR FROM THE WEST.
- 28 ALL ELECTRICAL SERVING PUMPS INCLUDING STARTERS, DISCONNECTS ETC. SHALL BE REMOVED AND REPLACED.

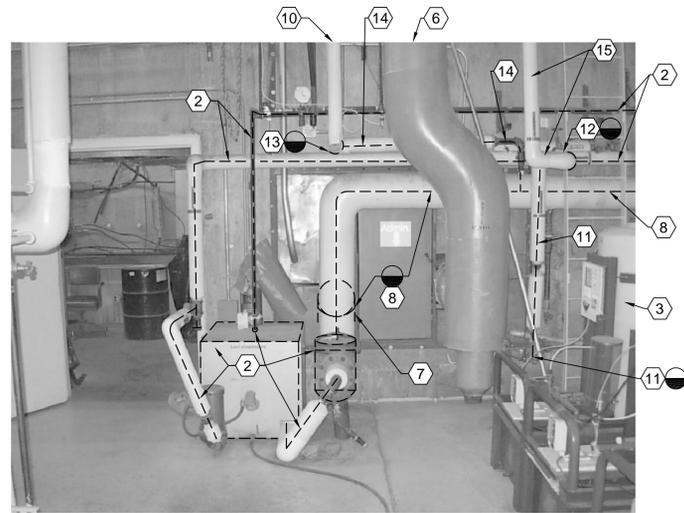
KEY PLAN



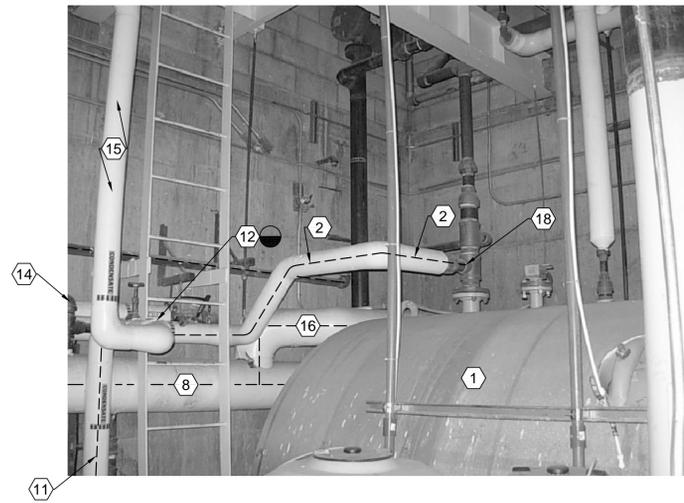
LARGE SCALE HEAT PLANT DEMOLITION PLAN

SCALE: 1/2" = 1'-0"

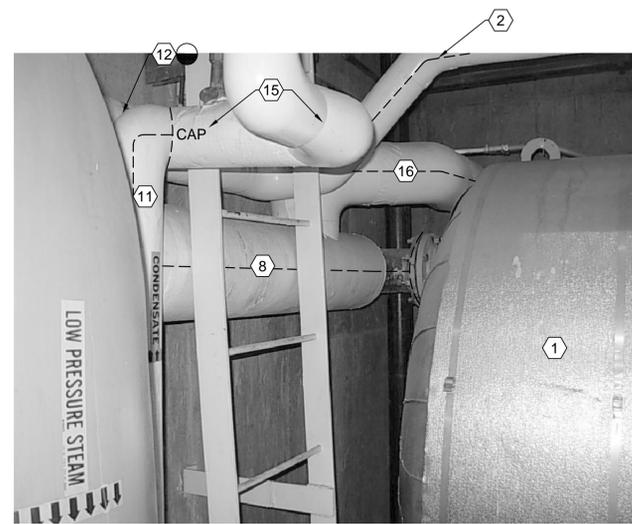




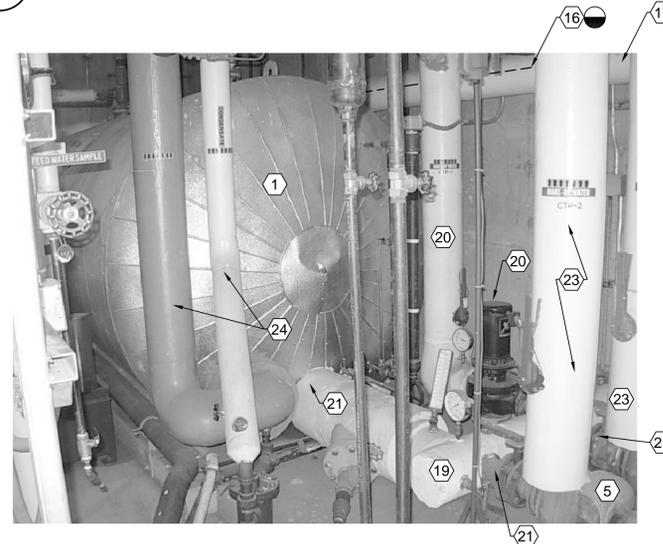
C1 CONDENSATE RECEIVER SET LOOKING EAST



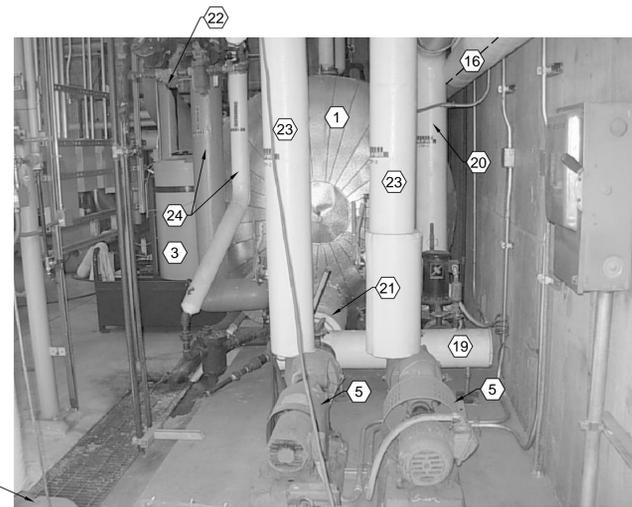
C3 CONDENSATE RECEIVER TANK LOOKING SOUTHEAST



B1 CONDENSATE RECEIVER PIPING LOOKING SOUTHEAST



B3 CONDENSATE RECEIVER TANK LOOKING SOUTHEAST



A1 CONDENSATE RECEIVER SET LOOKING EAST

SHEET NOTES:

- 1 EXISTING CONDENSATE RECEIVER TANK SHALL REMAIN.
- 2 REMOVE EXISTING CONDENSATE RECEIVER TANK AND PUMP AND ALL ASSOCIATED ITEMS, PIPING, VENT, ELECTRICAL, ETC.
- 3 EXISTING CHEMICAL FEED TANKS AND CARTS SHALL REMAIN. RELOCATE IF REQUIRED.
- 4 REMOVE EXISTING BOILER FEED WATER PUMPS, BASES ETC. CLEAN CONCRETE.
- 5 REMOVE EXISTING CONDENSATE TRANSFER PUMPS, BASES ETC. CLEAN CONCRETE.
- 6 EXISTING HPS PIPING TO EAST SIDE OF CAMPUS SHALL REMAIN.
- 7 EXISTING HPR PIPING FROM EAST SIDE OF CAMPUS SHALL REMAIN.
- 8 REMOVE EXISTING HPR PIPING, VALVES, STRAINERS, ETC. TO THIS POINT INSIDE BOILER ROOM.
- 9 REMOVE AND RELOCATE EXISTING BOILER FEED WATER PUMP BFP-3.
- 10 EXISTING HPR FROM NORTH END TO POINT SHOWN SHALL REMAIN. SEE NOTE 13.
- 11 REMOVE EXISTING HPR FROM BOTTOM OF MAIN STEAM HEADER TRAP TO ELBOW. SEE ME101 FOR CONNECTION. TRAP AND VALVES SHALL REMAIN.
- 12 REMOVE EXISTING HPR FROM MAIN STEAM HEADER TRAP OVERHEAD AT THIS LOCATION. SEE SHEET ME401 FOR NEW CONNECTION.
- 13 REMOVE EXISTING HPR FROM NORTH AT THIS LOCATION. THIS PIPING IS LOCATED ABOVE THE 6" MAIN HPR. SEE SHEET ME101 FOR NEW CONNECTION.
- 14 REMOVE THIS SECTION OF HPR FROM THE NORTH LOCATED ABOVE 6" MAIN HPR.
- 15 EXISTING HPR FROM 10" MAIN STEAM HEADER DRIP LEG, TRAP AND VALVES SHALL REMAIN.
- 16 REMOVE EXISTING HPR FROM WEST SIDE OF CAMPUS FROM THIS POINT TO TANK CONNECTION.
- 17 EXISTING HPR FROM WEST CAMPUS SHALL REMAIN. SEE SHEET ME401 FOR LOCATION.
- 18 CAP TEE AT THIS POINT OF CONNECTION.
- 19 EXISTING CONDENSATE SUCTION HEADER SHALL REMAIN.
- 20 EXISTING PUMPED CONDENSATE PIPING AND PUMP SHALL REMAIN.
- 21 EXISTING CONDENSATE SUCTION PIPE SHALL REMAIN AND BE MODIFIED TO FIT NEW PUMPS. SEE ME401 FOR CONTINUATION
- 22 EXISTING HPR FROM STEAM TRAP SERVING HEATER IN TANK SHALL REMAIN.
- 23 EXISTING PUMPED CONDENSATE TO DEAERATOR SHALL REMAIN. MODIFY TO FIT NEW PUMPS. SEE SHEET ME401.
- 24 EXISTING HPS AND HPR TO TANK HEATER SHALL REMAIN.

CONSULTANTS



PROJECT NAME & ADDRESS

**SOUTHERN UTAH
UNIVERSITY HEAT
PLANT CONDENSATE
TANK RELOCATION**

DFCM No. 08114730

Cedar City, Utah

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PROJECT MANAGER:

WP

DRAWN BY:

LGD

CHECKED BY:

SLW

DATE:

07/14/08

WHW JOB NO.:

08019

SHEET TITLE

**LARGE SCALE HEAT PLANT
DEMOLITION PHOTO'S**

SHEET NO.

MD402



CONSULTANTS



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| △ | 05/11/09 | ADDED 10" - 300lb FLG. AND 10" - 300lb BLIND FLG. |
| | | ADDED INSULATION COVERAGE NOTE 41. CLARIFIED AND |
| | | ADDED PIPING REQUIREMENTS NOTE 39. |

PROJECT MANAGER:

WP

DRAWN BY:

LGD

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SLW

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07/14/08

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08019

SHEET TITLE

**LARGE SCALE HEAT PLANT
PLAN**

SHEET NO.

ME401

SHEET NOTES:

- 37 ROUTE NEW HPR WITH TOP OF INSULATION AT SAME LEVEL AS ANGLE AT BOTTOM OF TUNNEL ACCESS DOOR APPROX. 20" ABOVE FLOOR.
- 38 ROUTE NEW HPR WITH BOTTOM OF INSULATION ON TOP OF INSULATION ON CONDENSATE SUCTION PIPING HEADER.
- 39 ALL NEW BOILER FEED WATER PIPING SHALL BE ASTM A53-A BLACK STEEL SEAMLESS PIPING. SCHEDULE 40. HPS, HPR, AND PC SHALL BE ASTM A53-A BLACK STEEL SEAMLESS PIPING SCHEDULE 80.
- 40 PROVIDE 10" - 300lb FLANGE ON END OF HPR LINE WITH A 10" - 300lb BLIND FLANGE FOR FUTURE CONNECTION.
- 41 REMOVE EXISTING INSULATION ON PIPING TO REMAIN. PROVIDE NEW INSULATION FOR PIPING TO REMAIN AND ALL NEW HPS, HPR, BFW, AND PC.

SHEET NOTES:

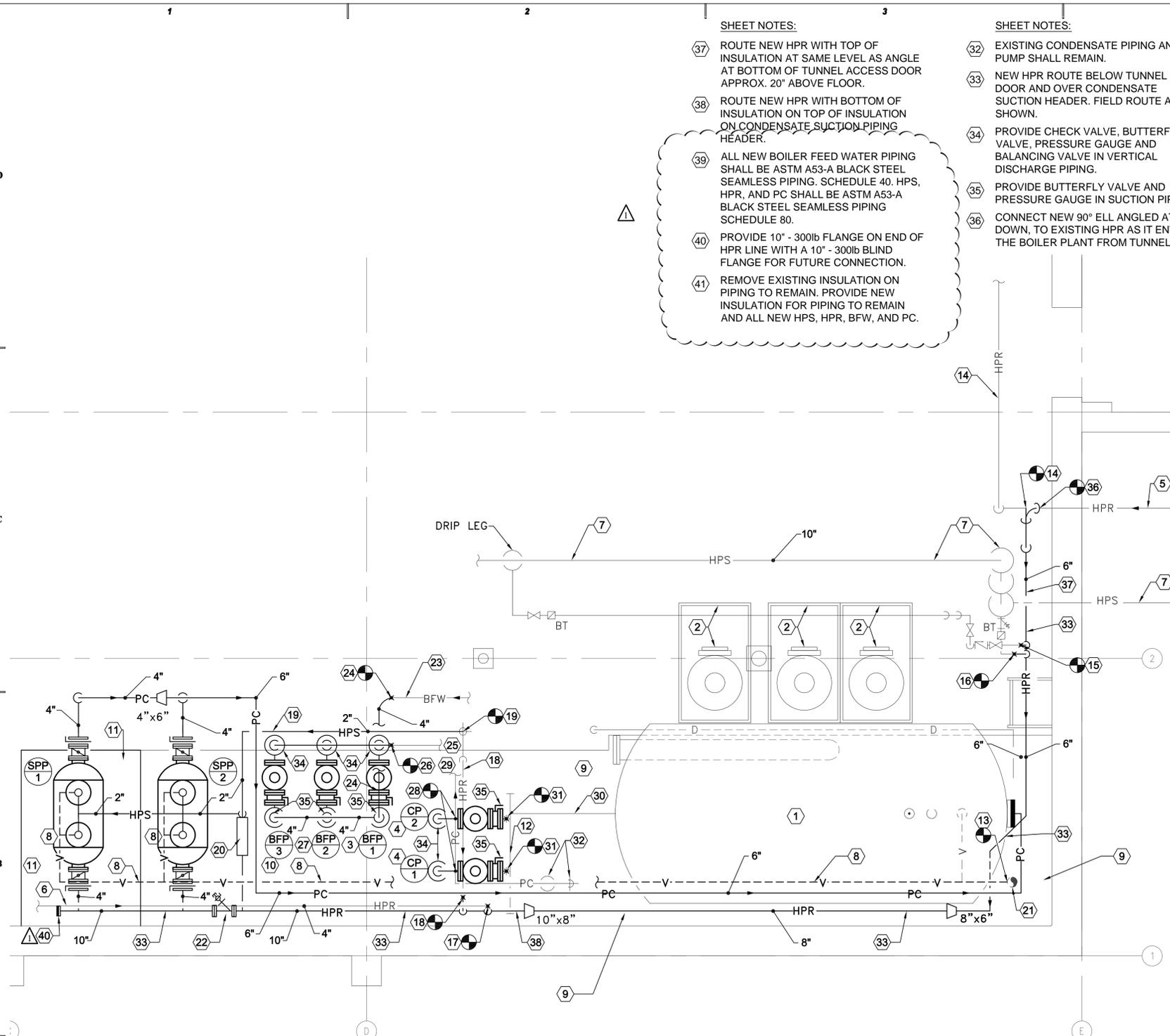
- 32 EXISTING CONDENSATE PIPING AND PUMP SHALL REMAIN.
- 33 NEW HPR ROUTE BELOW TUNNEL DOOR AND OVER CONDENSATE SUCTION HEADER. FIELD ROUTE AS SHOWN.
- 34 PROVIDE CHECK VALVE, BUTTERFLY VALVE, PRESSURE GAUGE AND BALANCING VALVE IN VERTICAL DISCHARGE PIPING.
- 35 PROVIDE BUTTERFLY VALVE AND PRESSURE GAUGE IN SUCTION PIPING.
- 36 CONNECT NEW 90° ELL ANGLED AT 45° DOWN, TO EXISTING HPR AS IT ENTERS THE BOILER PLANT FROM TUNNEL.

SHEET NOTES:

- 26 CONNECT TO EXISTING BFW TO BOILERS AND EXTEND NEW BFW TO DISCHARGE OF EACH PUMP.
- 27 EXISTING PUMP IN STORAGE SHALL BE INSTALLED BY CONTRACTOR.
- 28 CONNECT NEW 3" CONDENSATE SUPPLY PIPING TO EXISTING OVERHEAD PIPING.
- 29 EXISTING CONDENSATE TO DEAERATOR SHALL REMAIN.
- 30 EXISTING CONDENSATE SUCTION FROM SURGE TANK SHALL REMAIN.
- 31 CONNECT TO EXISTING CONDENSATE SUCTION PIPING.

SHEET NOTES:

- 1 EXISTING CONDENSATE SURGE TANK SHALL REMAIN.
- 2 EXISTING CHEMICAL FEED TANKS AND CARTS SHALL REMAIN.
- 3 PROVIDE NEW BOILER FEED PUMP.
- 4 PROVIDE NEW CONDENSATE TRANSFER PUMPS.
- 5 EXISTING 6" CONDENSATE RETURN FROM THE EAST SIDE OF THE CAMPUS.
- 6 EXISTING 4" CONDENSATE RETURN FROM THE WEST SIDE OF THE CAMPUS.
- 7 EXISTING 10" STEAM HEADER AND STEAM SUPPLY TO EAST SIDE OF CAMPUS.
- 8 PROVIDE NEW VENT PIPING FROM STEAM POWERED PUMPS TO EXISTING VENT THRU ROOF.
- 9 EXISTING CONCRETE PAD SHALL REMAIN.
- 10 RELOCATED BOILER FEED PUMP TO THIS LOCATION.
- 11 PROVIDE NEW 6" HIGH CONCRETE PAD BETWEEN EXISTING OIL PUMP PAD AND EXISTING PUMP PAD.
- 12 EXISTING SUCTION HEADER SHALL REMAIN.
- 13 CONNECT NEW VENT TO EXISTING 4" VENT THRU ROOF. SEE SHEET ME701.
- 14 EXTEND HPR FROM NORTH END FROM THIS LOCATION DOWN AND CONNECT INTO NEW 6" HPR FROM TUNNEL. FIELD VERIFY SIZE.
- 15 EXTEND HPR FROM EXISTING STEAM MAIN TRAP ABOVE, AND CONNECT INTO NEW 6" HPR FROM TUNNEL. FIELD VERIFY SIZE.
- 16 EXTEND HPR FROM EXISTING STEAM MAIN TRAP LOCATED AT THE BOTTOM OF THE RISER DOWN AND CONNECT TO NEW 6" HPR FROM TUNNEL. FIELD VERIFY SIZE.
- 17 EXTEND HPR FROM WEST SIDE DOWN AND CONNECT INTO NEW 10" HPR FROM TUNNEL. EXISTING PIPING IS 4".
- 18 EXTEND HPR FROM STEAM TRAP SERVING SURGE TANK HEATER DOWN AND CONNECT TO NEW 10" HPR FROM TUNNEL. FIELD VERIFY SIZE.
- 19 CONNECT INTO EXISTING HPS SERVING TANK HEATER AND EXTEND TO NEW STEAM POWERED PUMPS. FIELD VERIFY CONNECTION LOCATION. SEE SHEET ME701.
- 20 PROVIDE DRIP LEG AND STEAM TRAP AT BOTTOM OF STEAM RISER. SEE TRAP DETAIL A3/ME501.
- 21 EXISTING 4" VENT THRU ROOF.
- 22 NEW 10" STRAINER -150# FLANGED.
- 23 EXISTING BFW FROM DEAERATOR TO NEW BOILER FEED WATER PUMPS.
- 24 CONNECT TO EXISTING BFW AND EXTEND NEW 4" BFW TO PUMPS
- 25 EXISTING BFW TO BOILERS SHALL REMAIN.

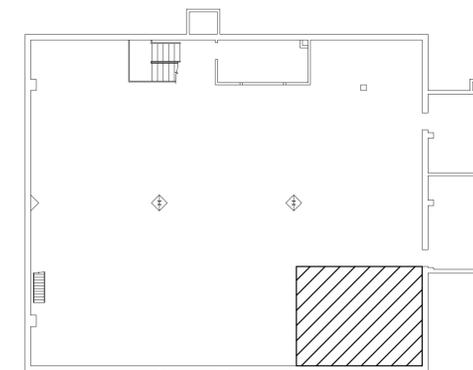


LARGE SCALE HEAT PLANT PLAN

SCALE: 1/2" = 1'-0"



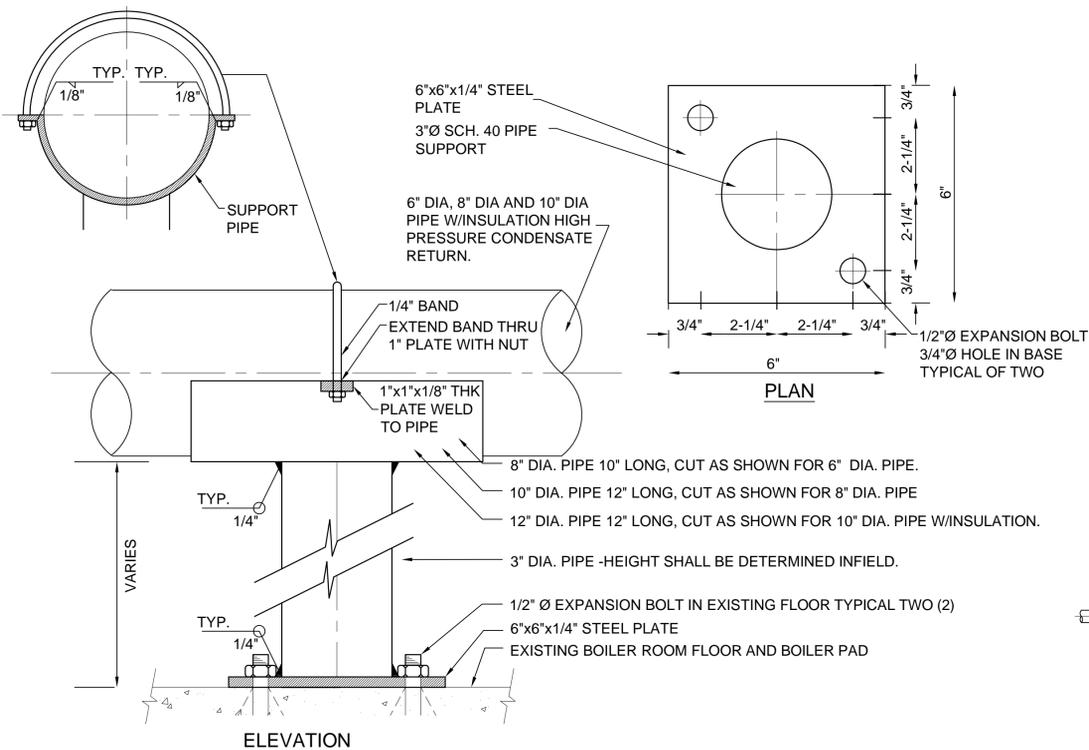
KEY PLAN



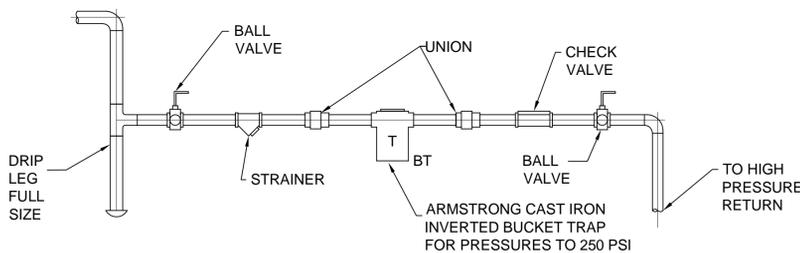
PUMP SCHEDULE

| SYMBOL | TYPE | MAKE / MODEL | GPM | FT. HEAD | SUCTION SIZE | DISCHARGE SIZE | MOTOR | | | WEIGHT LBS | SERVICE | SCHEDULE NOTES |
|----------------|--------------------|------------------------|----------------------------|-----------------------|--------------|----------------|------------|----|------|------------|---------------------|----------------|
| | | | | | | | V - Ø - Hz | HP | RPM | | | |
| BFP_1 | BOILER FEED PUMP | GRUNDFOS CR20.7 | 126 | 300 | 2" | 2" | 208/60/3Ø | 20 | 3500 | 394 LBS | BOILER FEED WATER | NEW - 4 |
| BFP_2 | BOILER FEED PUMP | GRUNDFOS CR20.7 | 126 | 300 | 2" | 2" | 208/60/3Ø | 20 | 3500 | 394 LBS | BOILER FEED WATER | 3 |
| BFP_3 | BOILER FEED PUMP | GRUNDFOS CR20.7 | 126 | 300 | 2" | 2" | 208/60/3Ø | 20 | 3500 | 394 LBS | BOILER FEED WATER | 2 |
| CP_1 | CONDENSATE PUMP | GRUNDFOS CR20.1 | 126 | 30 | 2" | 2" | 208/60/3Ø | 3 | 3500 | 154 LBS | CONDENSATE TRASFER | 4 |
| CP_2 | CONDENSATE PUMP | GRUNDFOS CR20.1 | 126 | 30 | 2" | 2" | 208/60/3Ø | 3 | 3500 | 154 LBS | CONDENSATE TRANSFER | 4 |
| SPP_1 | STEAM POWERED PUMP | SPIRAX SARCO 4" PTF-4H | 37,000 @ 80#/HR PSIG STEAM | BACK PRESSURE 15 PSIG | 4" | 4" | 4 #/HR | - | - | 550 LBS | CONDENSATE TRANSFER | 1,4,5,6 |
| SPP_2 | STEAM POWERED PUMP | SPIRAX SARCO 4" PTF-4H | 37,000 @ 80#/HR PSIG STEAM | BACK PRESSURE 15 PSIG | 4" | 4" | 4 #/HR | - | - | 550 LBS | CONDENSATE TRANSFER | 1,4,5,6 |

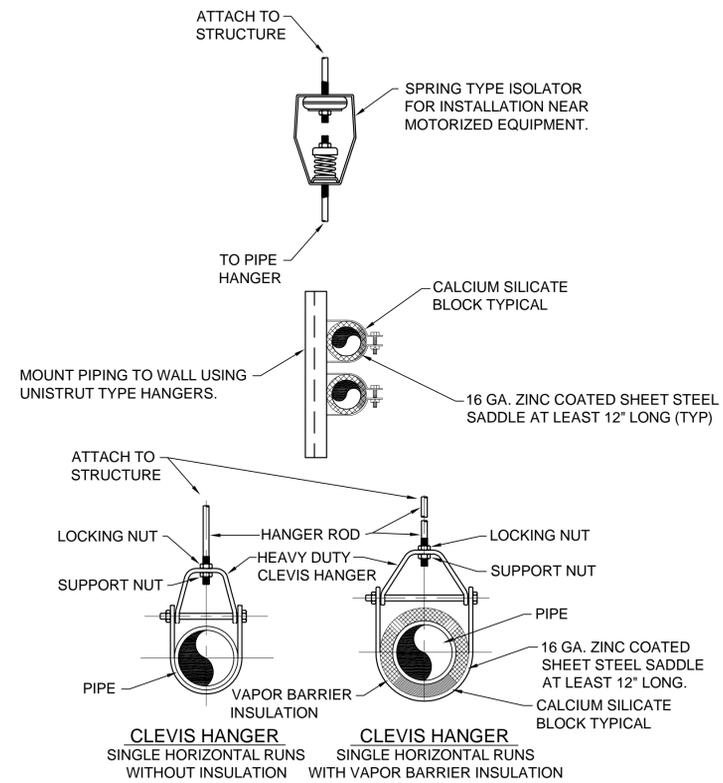
1. PROVIDE REMOVABLE INSULATION KIT AROUND PUMP.
2. EXISTING TO BE RELOCATED.
3. EXISTING PUMP IN STORAGE TO BE INSTALLED AS BFP-2.
4. SEE SPECIFICATIONS FOR OTHER APPROVED MANUFACTURER'S.
5. PROVIDE WITH INLET AND OUTLET STAINLESS STEEL, SPLIT DISC CHECK VALVES.
6. PROVIDE CONNECTION AND VALVE ON TOP OF STEAM POWERED PUMPS FOR EMERGENCY COMPRESSED AIR FITTING.



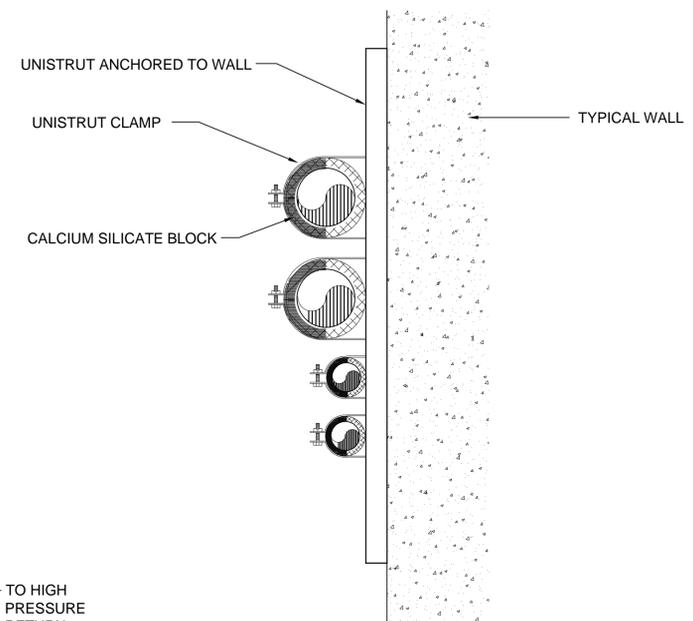
A1 FLOOR PIPING SUPPORT DETAIL
SCALE: NONE



A3 STEAM TRAP DETAIL
SCALE: NONE



C4 PIPE HANGER DETAIL
SCALE: NONE



A4 PIPE WALL ANCHOR DETAIL
SCALE: NONE

