

Mechanical Addendum Two

March 10, 2015

NOTE: The following amendments, additions, and deletions shall be made to the Construction Documents and Contract Documents. Insofar as those documents are at variance with this Addendum, this Addendum shall govern.

Clarifications

- | <u>Item No.</u> | <u>Description</u>   |
|-----------------|--|
| 1.              | <u>Clarification:</u> Question: Is the heat exchanger a replacement or new? Answer: The heat exchanger is new per the schedule on sheet M3.  |
| 2.              | <u>Clarification:</u> Question: Also note on the drawings mentions a steam meter, do we need a new one? Answer: The steam meter will be furnished by USC and the cost of the meter is not included in the contract. Contractor is to provide labor only to install the meter. See note on sheet M3.  |
| 3.              | <u>Clarification:</u> Question: Drawing M1 & M2 has a note Anchor Block per detail. There is the no detail. Answer: Detail has been added to sheet M3. See revised sheet attached.   |
| 4.              | <u>Clarification:</u> Question: What are the specifications for the flow switch on M3 – Steam and hot water schematic? Answer: Water flow switches shall be equal to the Johnson Controls P74.   |
| 5.              | <u>Clarification:</u> Question: What are the specifications for the control valve on M3 – Steam and hot water schematic? Answer: All automatic control valves shall be ball valves fully proportioning and provide near linear heat transfer control. The valves shall be quiet in operation and fail-safe closed. All valves shall operate in sequence with another valve when required by the sequence of operations. All control valves shall be sized by the control manufacturer, and shall be guaranteed to meet the heating and cooling loads, as specified. All control valves shall be suitable for the system flow conditions and close against the differential pressures involved. Body pressure rating and connection type (sweat, screwed, or flanged) shall conform to the pipe schedule elsewhere in this Specification. |
| 6.              | <u>Clarification:</u> Question: What are the specifications for the steam and condensate piping & fittings 2” and smaller? Answer: The pipe shall be the same as 2” and larger.  |

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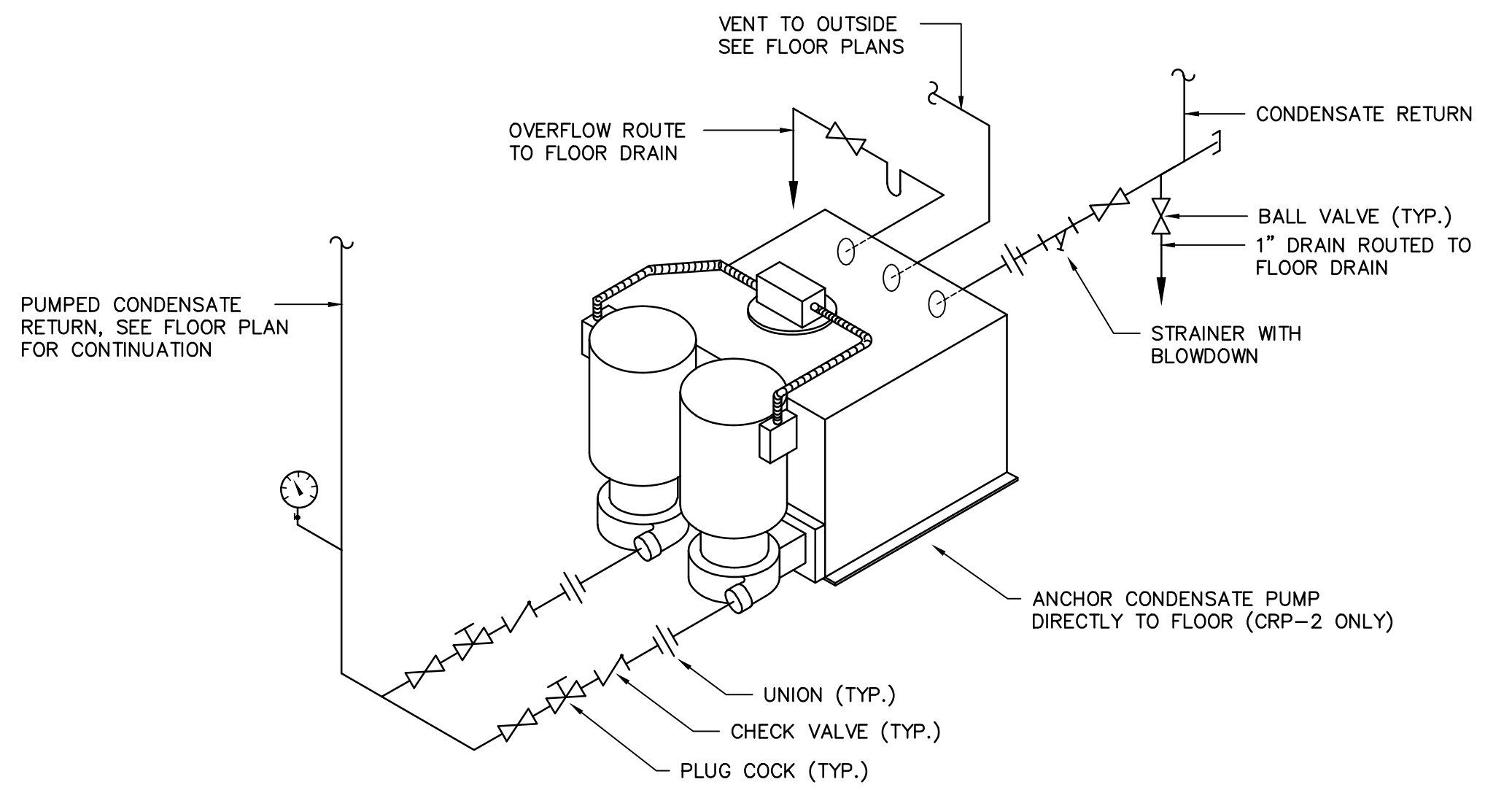
CONDENSATE RETURN UNIT						
TAG	ITT B&G MODEL NO.	CAP. GPM	DIS. PRESS. PSIG	MOTOR H.P.	RECEIVER CAP.-GALS.	REMARKS
CRP-1	WCD-30-30BMA	30	30	1	23	1,2

1. PROVIDE MECHANICAL ALTERNATOR PUMP CONTROL, VENT AND OVERFLOW AND LOW INLET HEIGHT TO ALLOW GRAVITY FALL FROM EXISTING AIR HANDLING UNIT.  
2. PUMPS SHALL BE DUPLEX ARRANGEMENT.

CONVERTER SCHEDULE							
TAG	ITT B&G MODEL NO.	GPM	WATERSIDE		STEAM PSI	STEAM LBS./HR.	REMARKS
			TEMP. IN	TEMP. OUT			
HX-1	QSU 8 2-4	50	150	180	15.0	776	1,2

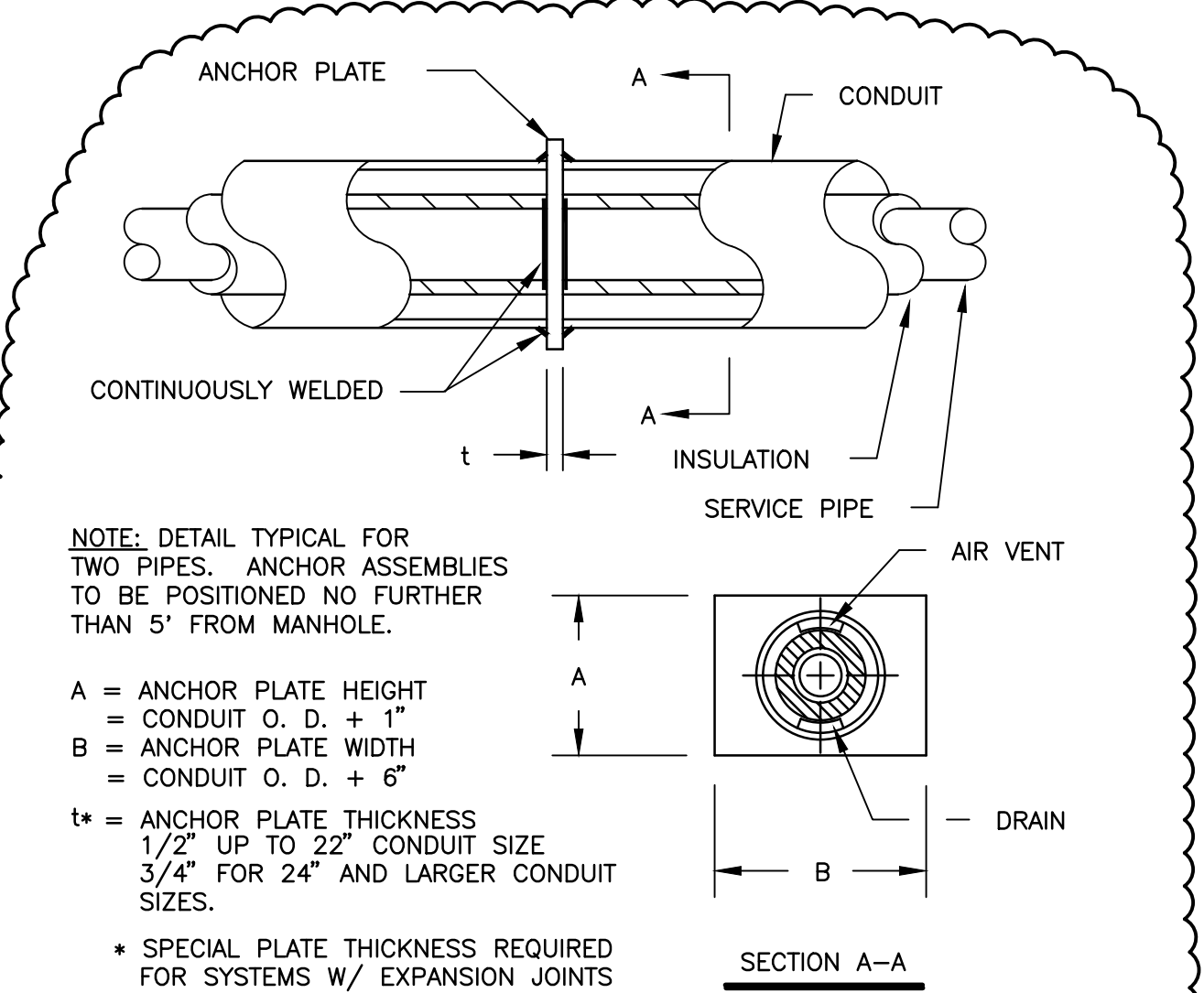
1. PROVIDE WITH CAST IRON BONNET, STEEL BAFFLES, SHELL AND TUBESHEET, WITH 3/4" O.D. 0.035" THICK COPPER TUBES.  
2. PROVIDE HEAT EXCHANGER WITH MAXIMUM LENGTH OF 30' TO FIT INSIDE AVAILABLE SPACE IN MECHANICAL ROOM.

- ### GENERAL NOTES
- VISIT SITE PRIOR TO BIDDING. THIS CONTRACTOR SHALL DETERMINE DIFFICULTY OF INSTALLATION AND REFLECT THIS IN HIS BIDDING.
  - DO NOT SCALE DRAWINGS. THIS CONTRACTOR SHALL VERIFY ALL EXISTING ITEMS AND LOCATIONS IN THE FIELD.
  - ALL PIPING LOCATIONS SHALL BE COORDINATED WITH WORK UNDER OTHER DIVISIONS OF THE SPECIFICATIONS TO AVOID INTERFERENCE.
  - EXISTING PIPE, DUCTWORK, CONDUIT, ETC. THAT INTERFERES WITH THE ROUTING OF NEW SYSTEMS SHALL BE RELOCATED. THIS CONTRACTOR SHALL INCLUDE THE COST OF SUCH IN HIS BID UNLESS NOTED OTHERWISE.
  - SEE SITE PLAN FOR CONTINUATION OF UTILITIES.
  - WATER SYSTEMS SHALL BE DRAINED AS REQUIRED FOR INSTALLATION OF WORK. UPON COMPLETION, SYSTEM SHALL BE FILLED WITH WATER AND VENTED OF ALL AIR.
  - ALL PIPING AND DUCTWORK INSULATION SHALL BE RUN CONTINUOUSLY THROUGH FLOORS, ROOFS AND PARTITIONS.
  - ALL PIPING IS SHOWN DIAGRAMMATIC. HOWEVER, THIS CONTRACTOR SHALL PROVIDE ALL REQUIRED FITTINGS, PIPING AND INSULATION FOR ALL OFFSETS AND/OR CHANGES IN ELEVATION.
  - EXTEND ALL DRAIN LINES TO NEAREST FLOOR DRAIN OR AS INDICATED - SO ROUTED AS TO AVOID INTERFERENCE WITH PASSAGEWAYS AND MAINTENANCE. DRAINS FROM AIR HANDLING UNITS SHALL BE TRAPPED PER STATIC PRESSURE REQUIREMENTS.
  - EXTEND DRAIN LINES FROM RELIEF VALVES TO NEAREST FLOOR DRAIN UNLESS OTHERWISE NOTED OR INDICATED.
  - ALL VALVES AND SPECIALTIES SHALL BE LINE SIZE UNLESS NOTED OTHERWISE, USING ECCENTRIC REDUCERS ON PUMP SUCTION AND CONCENTRIC REDUCERS ON PUMP DISCHARGE. USE ECCENTRIC REDUCERS ON AUTOMATIC VALVES AS REQUIRED.
  - ALL PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH THE SPECIFICATIONS AND FURTHER SUPPORTS OR HANGERS SHALL BE PROVIDED TO PREVENT WEIGHT OF PIPING BEING PLACED ON EQUIPMENT.
  - INSTALL ANCHORS AND EXPANSION LOOPS WHERE INDICATED ON DRAWINGS AND WHERE REQUIRED TO ALLOW FOR EXPANSION.
  - STEAM MAINS SHALL PITCH DOWN IN DIRECTION OF FLOW A MINIMUM OF ONE INCH IN FIFTY FEET. CONDENSATE RETURN MAINS SHALL PITCH DOWN IN DIRECTION OF FLOW A MINIMUM OF ONE INCH IN FIFTY FEET.
  - ALL ITEMS OF EQUIPMENT IN MECHANICAL ROOM SHALL BE LOCATED ON REINFORCED CONCRETE FOUNDATIONS, MINIMUM 6-INCH THICK OR AS DETAILED ON THESE PLANS AND SPECIFICATIONS AND 6 INCHES LARGER THAN EQUIPMENT IN EACH DIRECTION. PADS SHALL BE REINFORCED PER THE HOUSEKEEPING PAD SECTION OF THE ASHRAE PRACTICAL GUIDE FOR SEISMIC RESTRAINT. ALL UNITS SHALL BE SECURED TO THE HOUSEKEEPING PAD WITH SEISMIC RESTRAINTS. PROVIDE 1-INCH CHAMFERS ON ALL SIDES.
  - PROVIDE FOR ACCESS TO ALL EQUIPMENT REQUIRING CLEANING OR ADJUSTMENT.
  - THIS CONTRACTOR SHALL PROVIDE ALL ITEMS OF MISCELLANEOUS STEEL AS REQUIRED FOR INSTALLATION OF ALL MECHANICAL ITEMS.
  - THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ANY NECESSARY DISMANTLING OF EQUIPMENT TO BE REMOVED.
  - ITEMS REMOVED UNDER THIS CONTRACT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF PROPERLY.
  - THIS CONTRACTOR SHALL PATCH ALL WALLS AND FINISHED TO MATCH EXISTING WHERE ALL ITEMS OR EQUIPMENT ARE REMOVED.



**DUPLEX CONDENSATE RETURN UNIT**

NO SCALE



NOTE: DETAIL TYPICAL FOR TWO PIPES. ANCHOR ASSEMBLIES TO BE POSITIONED NO FURTHER THAN 5' FROM MANHOLE.

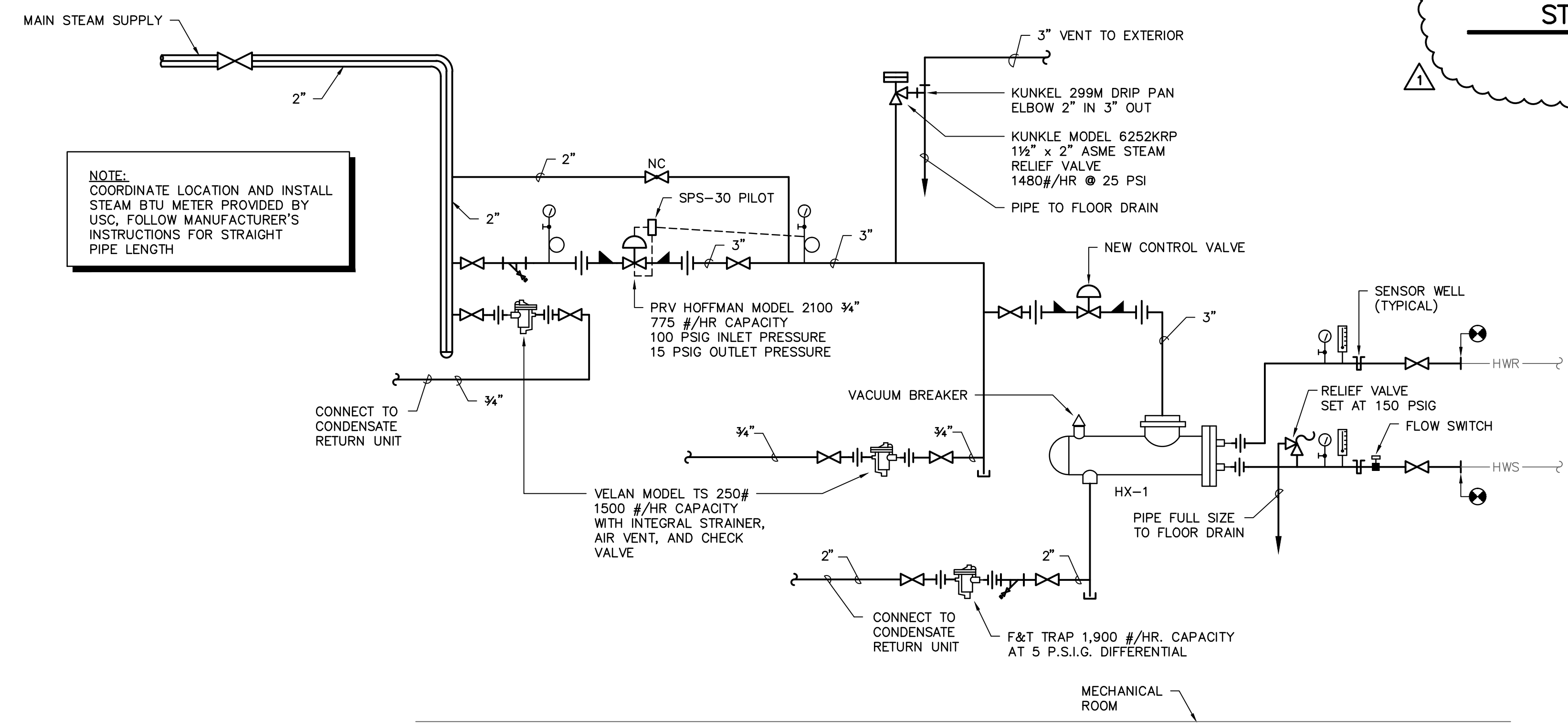
A = ANCHOR PLATE HEIGHT  
= CONDUIT O. D. + 1"  
B = ANCHOR PLATE WIDTH  
= CONDUIT O. D. + 6"  
t\* = ANCHOR PLATE THICKNESS  
1/2" UP TO 22" CONDUIT SIZE  
3/4" FOR 24" AND LARGER CONDUIT SIZES.  
\* SPECIAL PLATE THICKNESS REQUIRED FOR SYSTEMS W/ EXPANSION JOINTS

NOTE: A CONCRETE BLOCK SHALL BE CAST OVER THE PLATE AND CONDUIT AND SHALL BE AT LEAST 30" IN LENGTH AND SHALL EXTEND A MINIMUM OF 9" BEYOND THE TOP AND BOTTOM OF ANCHOR PLATE.

**STANDARD ANCHOR ASSEMBLY**

NO SCALE

LEGEND	
SYMBOL	DESCRIPTION
	HWS -> HOT WATER SUPPLY LINE
	HWR -> HOT WATER RETURN LINE
	S -> STEAM LINE
	LPS -> LOW PRESSURE STEAM LINE
	HPS -> HIGH PRESSURE STEAM LINE
	PC -> PUMPED CONDENSATE LINE
	GC -> GRAVITY CONDENSATE LINE
	PIPE TURNS TO AWAY
	CONNECTION POINT OF NEW TO EXISTING



**MAIN BUILDING STEAM AND HOT WATER PIPING SCHEMATIC**

NO SCALE

PROJECT TITLE: COLUMBIA CAMPUS CONDENSATE PUMP REPLACEMENT - LIEBER COLLEGE  
STATE PROJECT NUMBER H27-2206

UNIVERSITY OF SOUTH CAROLINA



SHEET:

M3

OF

SHEET IN SET:

OF

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COLUMBIA, SC 29208

SEAL: CHECKED BY: WCL  
DATE: 06FEB15  
DRAWN BY: DEM  
DATE: 06FEB15  
ORIG. BY: WCL  
DATE: 06FEB15  
REV. 1 ADDENDUM 2

Columbia Campus Condensate Pump Replacement – Lieber College  
University of South Carolina  
State Project Number H27-Z206

7. Clarification: Note that the contractor will need to provide pipe of sufficient size for sensor wells at the sensor locations.
8. Clarification: Contractor shall install neon-yellow safety fencing to protect existing vegetation at the SE corner of Lieber (between the sidewalk and the building).
9. Clarification: Contractor shall coordinate with the USC Arborist prior to any excavation at the existing Crape Myrtle at the south side of Lieber. The arborist will expose roots and provide clean cuts in advance of any utility excavation.
10. Clarification: The Contractor shall be responsible for re-construction of existing brick walks and edging to the original condition, including any existing concrete slabs beneath the brick (existing condition not known at present).
11. Clarification: USC Landscape Staff will be responsible for salvaging any shrubs within the disturbed area, and for replanting and/or replacing damaged plant material at the end of the project.
12. Clarification: The intent for the project schedule is to commence work as soon as possible. There will be no delay in proceeding with the work.

Drawings

Item No.      Description

13. Revision: Reference Drawing M3. See the attached revised Drawing M3-REV1. A detail for the anchor block has been added.

END OF ADDENDUM

Attachments

M3-REV1