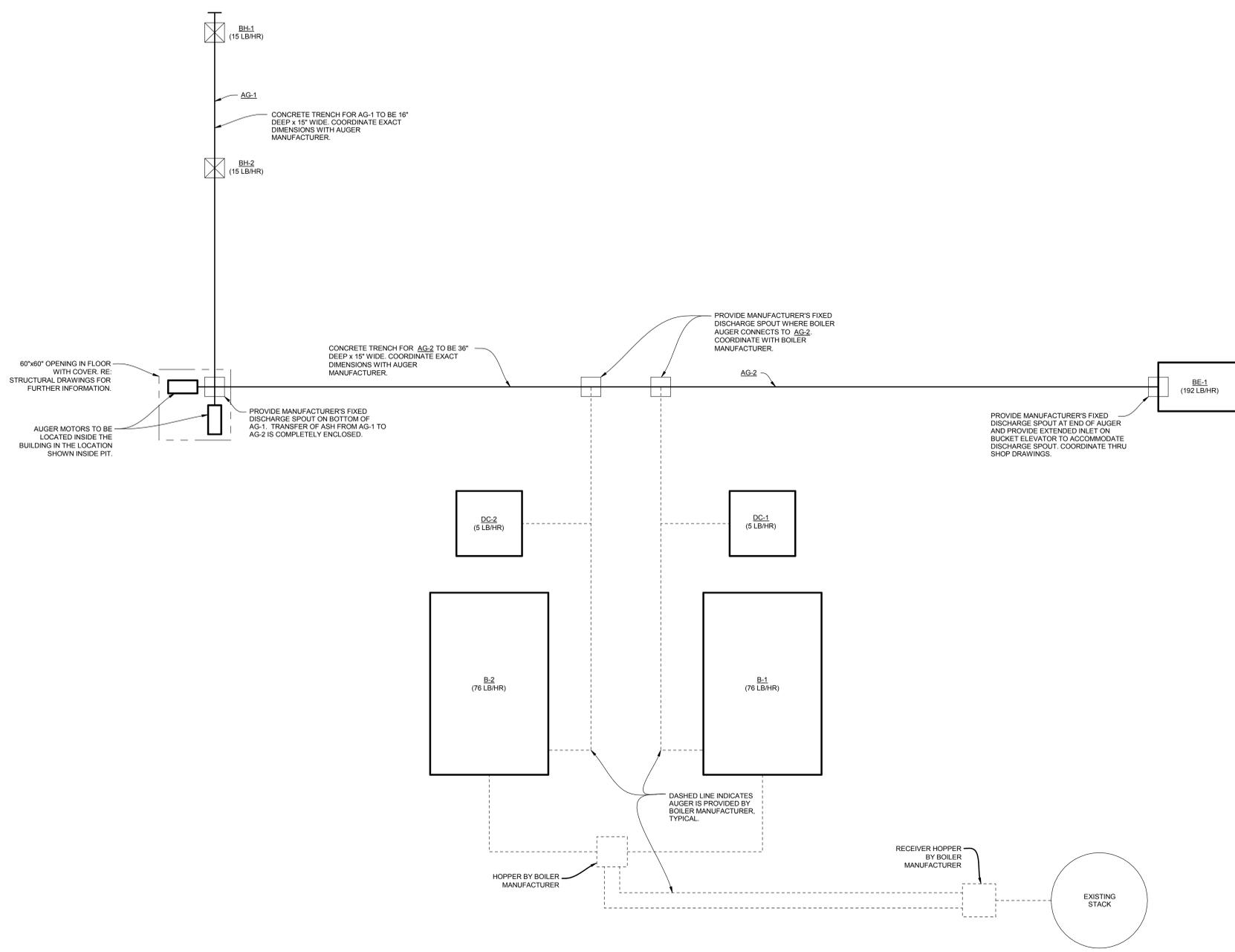


three inches = one foot
 one and one half inches = one foot
 one inch = one foot
 three quarters inch = one foot
 one half inch = one foot
 three eighths inch = one foot
 one quarter inch = one foot
 one eighth inch = one foot
 one sixteenth inch = one foot



AUGER AND BUCKET ELEVATOR SCHEMATIC
NO SCALE

GENERAL NOTES:

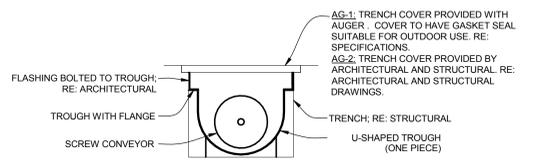
1. ALL COAL AND ASH HANDLING EQUIPMENT SHALL BE PROVIDED WITHIN THE MECHANICAL CONTRACTOR'S SCOPE OF WORK. DRAWINGS REFLECT WHICH EQUIPMENT IS PROVIDED BY THE BOILER MANUFACTURER TO THE MECHANICAL CONTRACTOR AND WHICH EQUIPMENT IS SEPARATE. ALL SUPPORTS FOR EQUIPMENT ARE TO BE PROVIDED BY THE MECHANICAL CONTRACTOR. ALL SUPPORTS FROM ABOVE SHALL UTILIZE THE NEW BEAMS AND SUPPORT SHOWN ON THE STRUCTURAL DRAWINGS.

BUCKET ELEVATOR SCHEDULE									
EQMT	CAPACITY (#/HR)	TYPE	DISCHARGE TYPE	ELECTRICAL			MANUFACTURER & MODEL NO.	NOTES	
				HP	V-Ø	STRTR			
BE-1	192	BELT	CENTRIFUGAL BUCKET	20HP	460-3	MAG-HOA	THOMAS CONVEYOR CO. SERIES 200 #BE141	1,2,3	

1. PROVIDE WITH REMOVABLE PANELS FOR CLEANOUT AND SERVICE.
2. PROVIDE EXTENSION ON DISCHARGE AS REQUIRED TO ENSURE ASH DISCHARGES INTO HOPPER ROOM.
3. EXACT HEIGHT OF BUCKET ELEVATOR TO BE COORDINATED SUCH THAT DISCHARGE OF BUCKET ELEVATOR MATCHES OPENING PROVIDED INTO HOPPER ROOM BY STRUCTURAL. RE: STRUCTURAL DRAWINGS.

ASH AUGER SCHEDULE									
AUGER	SIZE	LENGTH (FT) *	CAPACITY (#/HR)	ELECTRICAL			MANUFACTURER & MODEL NO.	NOTES	
				HP	V-Ø	STRTR			
AG-1	10"ø	30	30	7 1/2	460-3	MAG-HOA	THOMAS CONVEYOR CO. 10CTA14	1,2,3	
AG-2	10"ø	50	162	10	460-3	MAG-HOA	THOMAS CONVEYOR CO. 10CTA14	1,2,3,4	

1. * LENGTH DETERMINED FROM AS-BUILT DRAWINGS. CONTRACTOR TO CONFIRM IN FIELD AND MODIFY AS NECESSARY.
2. AUGER DIAMETER TO BE COORDINATED WITH MANUFACTURER. MODIFY IF REQUIRED. REVIEWED THRU SHOP DRAWINGS.
3. PROVIDE WITH 14"ø FLANGED AND GASKETED COVER.
4. COVER PROVIDED BY OTHERS. RE: STRUCTURAL AND ARCHITECTURAL.



TRENCH DETAIL
NO SCALE

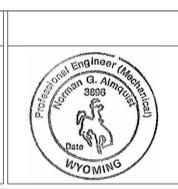
AUGER 1.2 CLEANING METHOD

1. EMPTY AUGER TROUGH OF ALL ASH MATERIAL PRIOR TO HOSING DOWN AUGER SYSTEM.
2. DO NOT UTILIZE AUGER AGAIN UNTIL ALL PARTS OF AUGER ARE COMPLETELY DRY.

Revisions:	Date

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GA Project Number 666-10-811

Drawing Title
ASH AUGER AND BUCKET ELEVATOR SCHEMATIC

Approved: Project Director
JASON BROWN

Project Title
-BOILER PLANT -REPLACEMENT-

Project Number
- 666-11-101

Building Number
- 90

Location
- SHERIDAN, WY

Date
12/15/2011
BIDDING & CNSTN

Checked
NGA

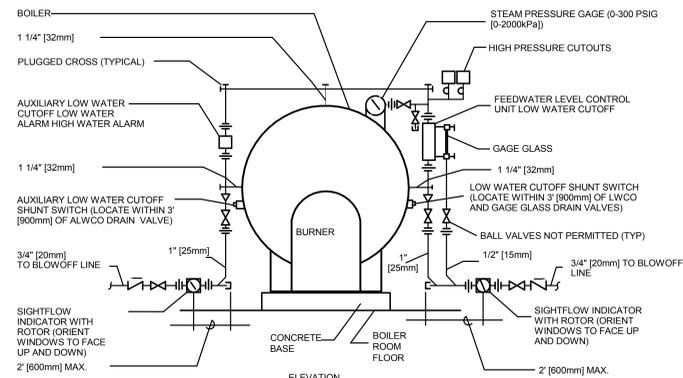
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Drawing Number
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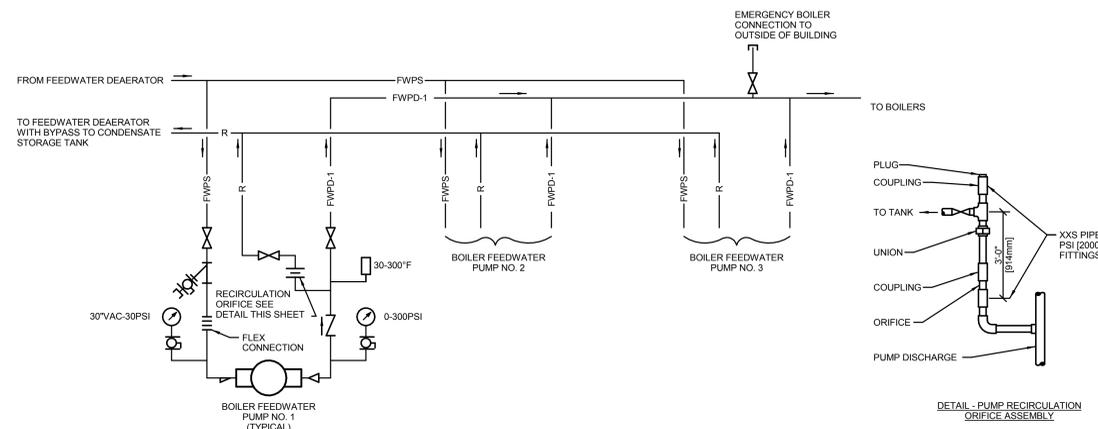
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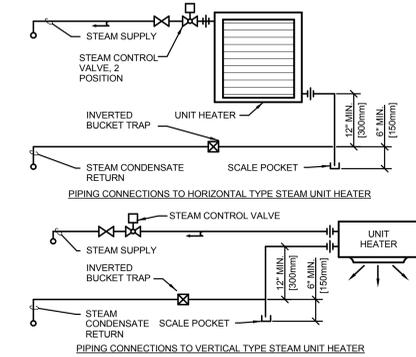
Department of
Veterans Affairs



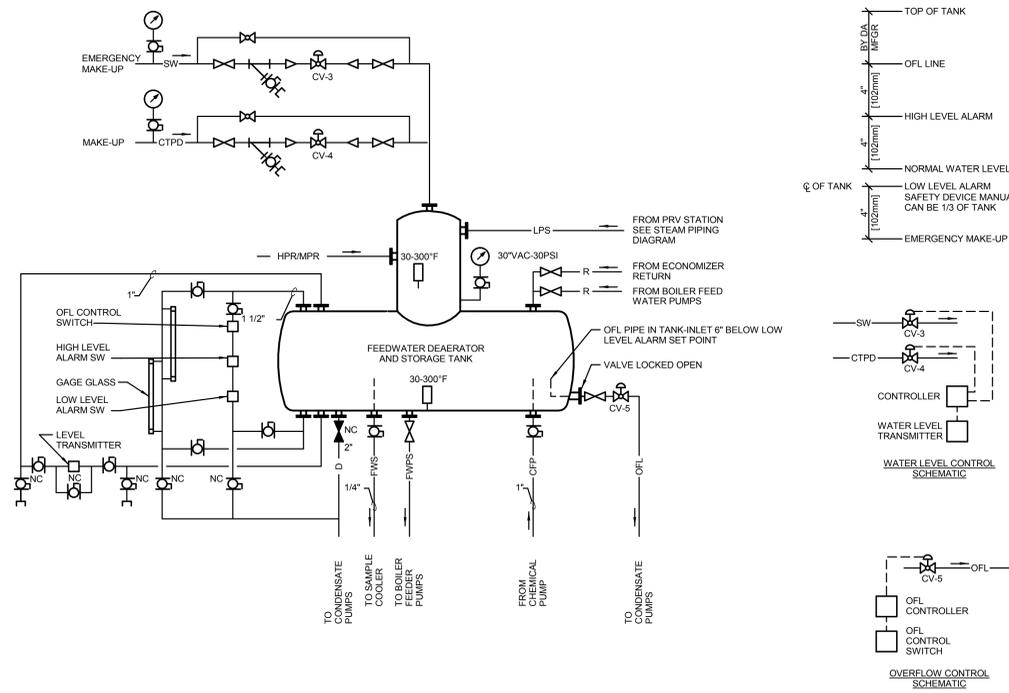
8 FIRE TUBE BOILER
NTS



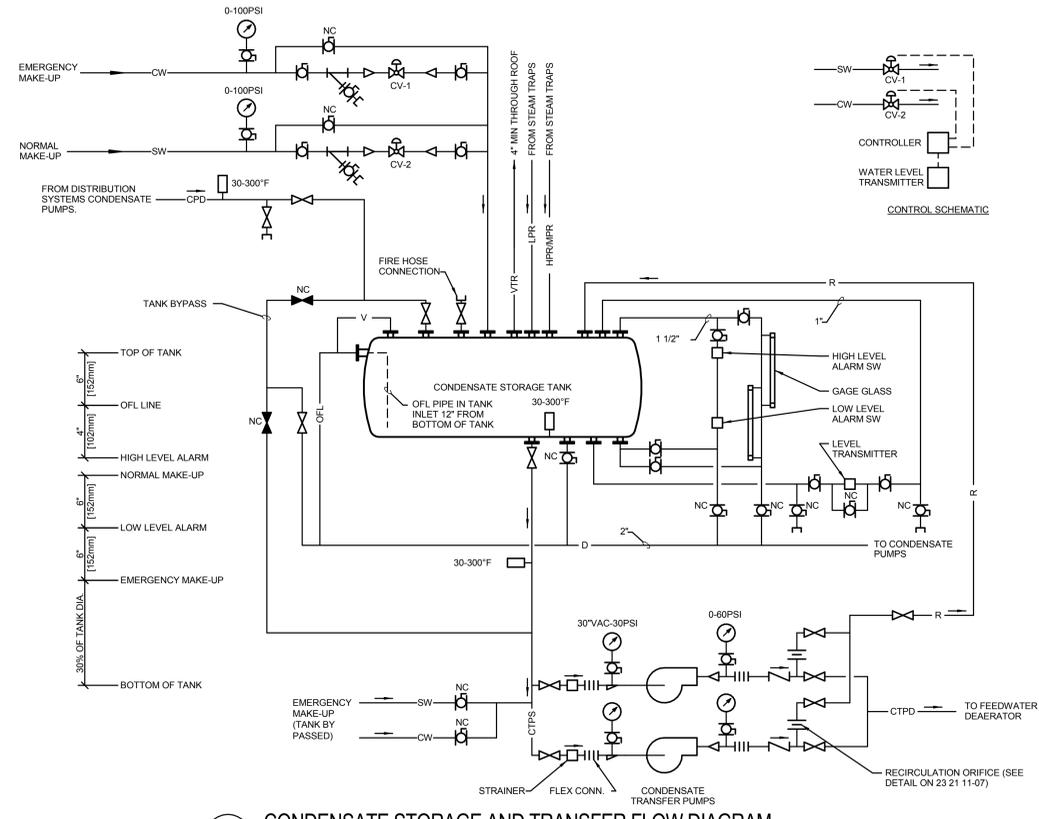
9 BOILER FEEDWATER PUMPS FLOW DIAGRAM
NTS
SEE BOILER FEEDWATER DIAGRAM FOR COMPLETE SYSTEM



10 UNIT HEATERS (STEAM) PIPING CONNECTIONS
NTS
NOTES:
1. UNIT MOUNTED THERMOSTAT SHALL MAINTAIN SPACE TEMPERATURE BY CYCLING THE FAN. THE CONTROL VALVE SHALL BE INTERLOCK WITH THE FAN.



11 FEEDWATER DEAERATOR FLOW DIAGRAM
NTS
SEE BOILER FEEDWATER DIAGRAM FOR COMPLETE SYSTEM



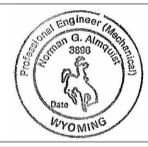
12 CONDENSATE STORAGE AND TRANSFER FLOW DIAGRAM
NTS
SEE BOILER FEEDWATER DIAGRAM FOR COMPLETE SYSTEM

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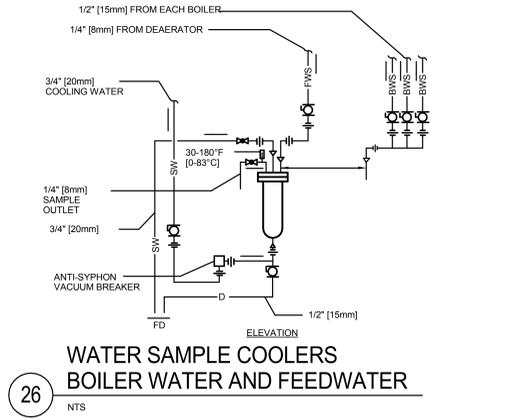
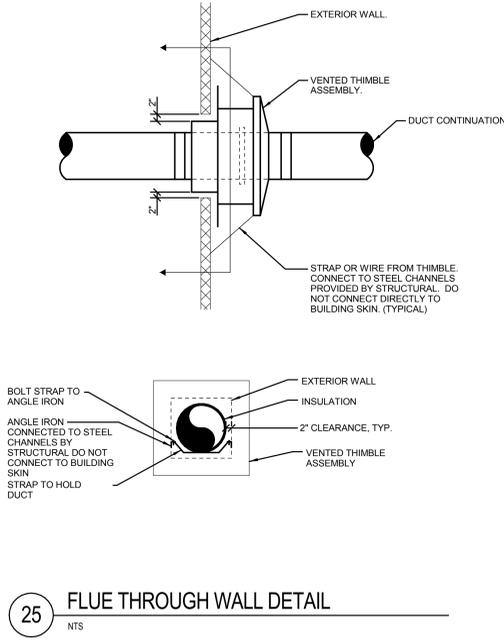
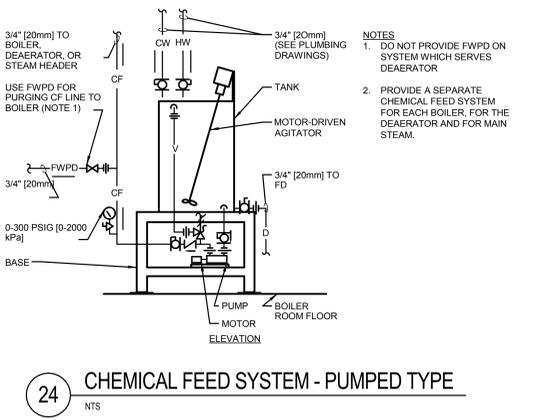
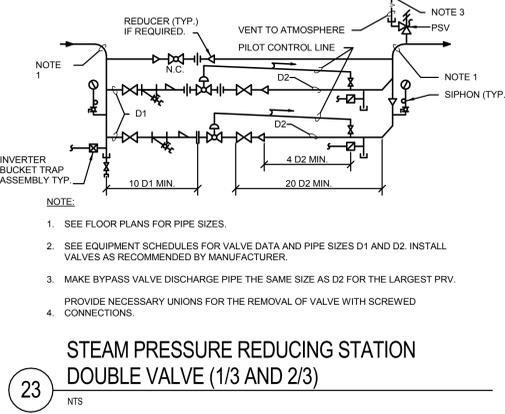
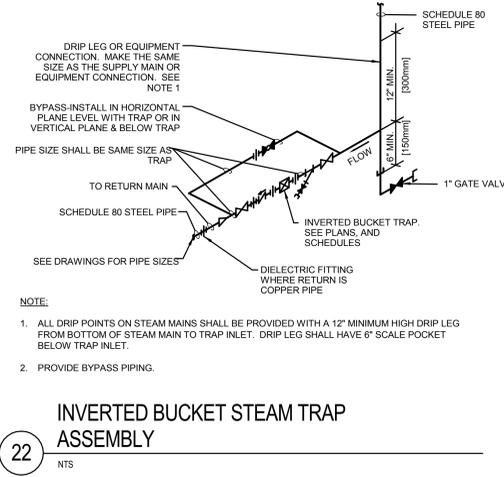
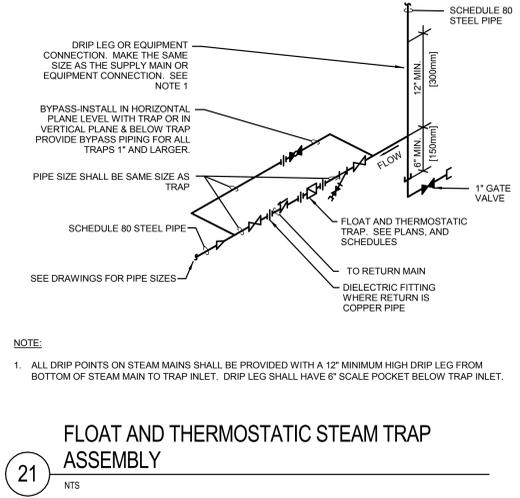
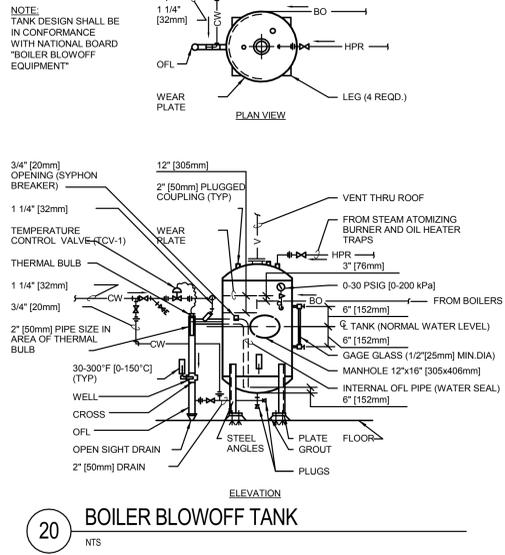
GA Project Number 666-10-811

Drawing Title MECHANICAL DETAILS		Project Title -BOILER PLANT -REPLACEMENT		Project Number - 666-11-101	
Approved: Project Director JASON BROWN		Location - SHERIDAN, WY		Building Number - 90	
Date 12/15/2011 BIDDING & CNSTN		Checked NGA		Drawing Number M1111	
		Drawn KJB		Dwg. of -	

Office of Construction and Facilities Management
Department of Veterans Affairs

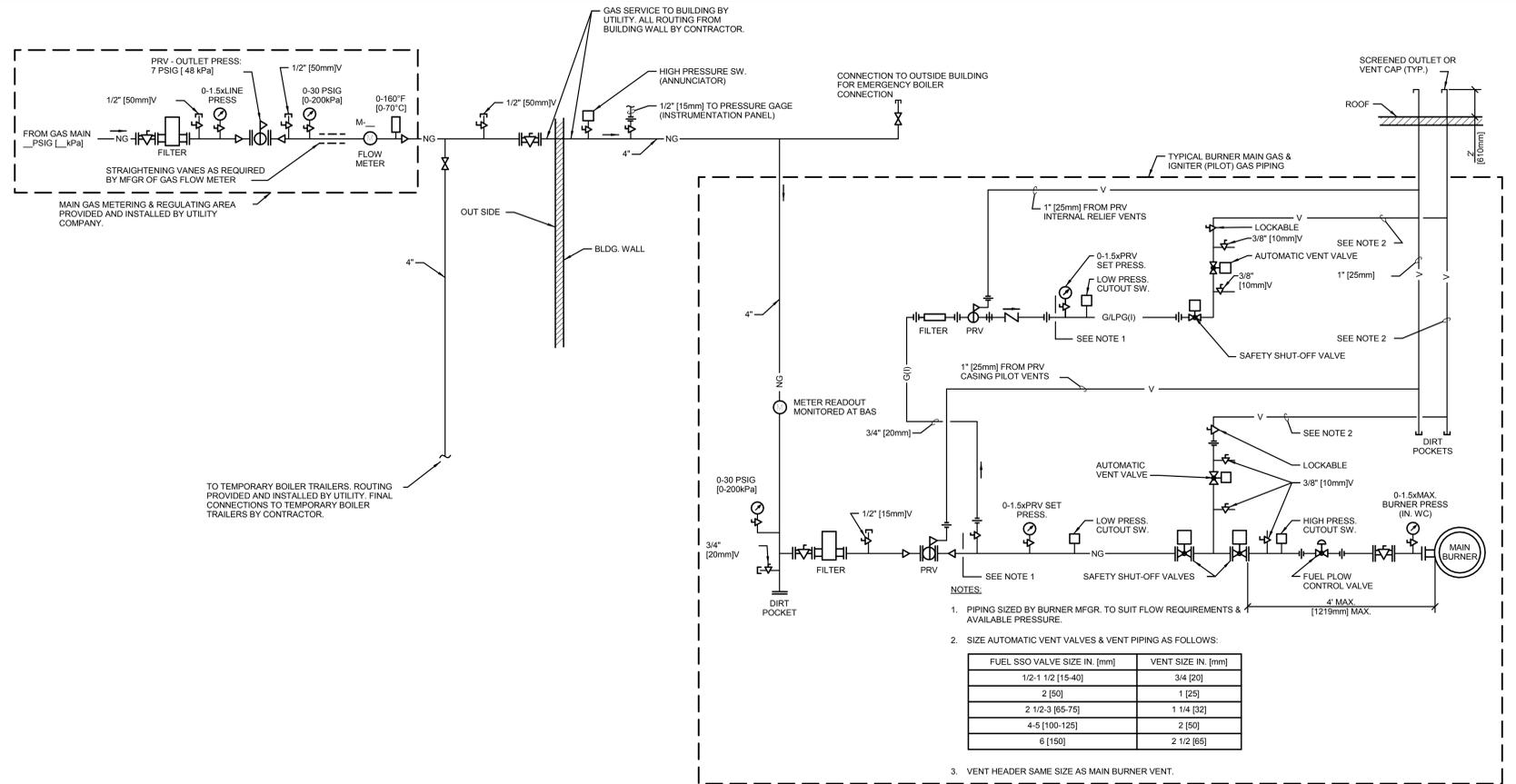
CONSTRUCTION DOCUMENTATION SUBMISSION - BIDDING & CONSTRUCTION

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 one eighth inch = one foot
 one quarter inch = one foot
 one half inch = one foot
 three eighths inch = one foot
 three quarters inch = one foot
 one inch = one foot
 three inches = one foot
 six inches = one foot
 one foot = one foot

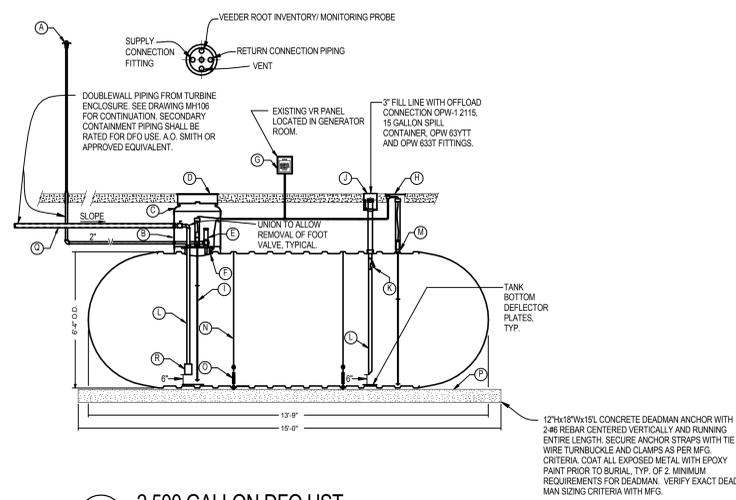


CONSTRUCTION DOCUMENTATION SUBMISSION - BIDDING & CONSTRUCTION

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Revisions: Date				Date 12/15/2011 BIDDING & CNSTN		Checked NGA		Drawn KJB	



27 NATURAL GAS - BURNER AND IGNITER FUEL STANDARD PIPING DIAGRAM
NTS



28 2,500 GALLON DFO UST
NTS

MARKING/SIZE	NOTORICAL LIST EQUIPMENT (LISTING)
A 1 1/2"	OPW 21 VENT CAP TERMINATE 150T MIN. A.F.G.
B 1 1/2"	CONTAINMENT MANHOLE W/SEALED TURBINE ENCLOSURE
C 1 1/2"	TRAP ENCLOSURE WITH ADHESIVE RTV WITH TIE ROD
D 1 1/2"	RAIN TIGHT COMPOSITE MANHOLE & FRAME (PROTECTIVE)
E 1 1/2"	EXTRATOR HOUSING WITH CAP
F 1 1/2"	LOW ANGLE VENT COLLAR SENSOR/VEEDER ROOT
G 1 1/2"	INVENTORY & LEAK DETECTION PANEL/VEEDER ROOT (EXISTING)
H 1 1/2"	WATER TIGHT BARGE
I 1 1/2"	TANK INVENTORY GAUGE - VEEDER ROOT
J 1 1/2"	SPILL CONTAINMENT MANHOLE W/CAP & ADAPTER
K 1 1/2"	OVERFLOW SPECIFICATION VALVE
L 2"	DRIP TUBE
M 1"	INTERSTITIAL SPACE SENSOR/VEEDER ROOT
N 2"	FIBERGLASS HOLD DOWN STRAP TYP.
O 4"	GALVANIZED TURNBUCKLE (MINI TYPE) TYP.
P 2 1/2"	CONCRETE DEADMAN ANCHOR (SEE NOTE BELOW)
Q 1"	DOUBLE WALL PIPING FROM TURBINE ENCLOSURE TO TRANSITION SLUMP
R 1"	FOOT VALVE

- SHEET NOTES:**
1. THIS SECTION IS DIAGRAMMATIC AND IS NOT TO BE SCALED. SEE DRAWING M105 AND ARCHITECTURAL DRAWINGS FOR ORIENTATION ON SITE. ALSO REFERENCE SPECIFIC MFG. DRAWINGS AND CRITERIA FOR INSTALLATION CRITERIA.
 2. ALL DIMENSIONS, INVERTS, ELEVATIONS, ETC. SHALL BE FIELD COORDINATED BEFORE ORDERING.
 3. ALL MANWAY AND ACCESS LIDS AND FRAMES SHALL BE RATED FOR H2O LOADING.

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GA Project Number 666-10-811

Drawing Title
MECHANICAL DETAILS

Approved: Project Director
JASON BROWN

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- SHERIDAN, WY

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Drawn
KJB

Project Number
- 666-11-101

Building Number
- 90

Drawing Number
M1114
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STEAM PRESSURE REDUCING VALVE STATION SCHEDULE									
STATION NO.	DWG. NO.	TOTAL FLOW LBS/HR	VALVE				MANUFACTURER	NOTES	
			NO.	SIZE (IN.)	LBS/HR	INITIAL PRESS. (PSIG)			OUTLET PRESS. (PSIG)
PRV-1 MPS	MH105	24,000	PRV-1A	6"	16,000	125	75	SPENCE	
			PRV-1B	4"	8,000	125	75	SPENCE	
PRV-2 LPS	MH105	7,500	PRV-2A	4"	5,000	75	7	SPENCE	
			PRV-2B	3"	1,500	75	7	SPENCE	

STEAM VENT SILENCER SCHEDULE														
ITEM	DWG. NO.	FLOW LBS/HR	TEMPERATURE/SET PRESSURE	MINIMUM SOUND ATTENUATION								MANUFACTURER & MODEL NO.	NOTES	
				31.5 HZ	63 HZ	125 HZ	250 HZ	500 HZ	1.0 KHZ	2.0 KHZ	4.0 KHZ			8.0 KHZ
VS-1	MH105	24,000	300 DEG.F / 14.7 PSIG	9.2 DBA	3.6 DBA	7.6 DBA	15.2 DBA	28.0 DBA	34.6 DBA	42.2 DBA	46.2 DBA	43.1 DBA	PENN SEPARATOR - SP 10-36	

SAMPLE COOLER									
ITEM	SHELL PRESS. RATING (PSI)	TUBE PRESS. RATING (PSI)	TUBE MATERIAL	SHELL MATERIAL	WEIGHT WATER LBS	SHELL PRESSURE DROP	TUBE PRESSURE DROP	MANUFACTURER & MODEL NO.	NOTES
NOTES: 1. PROVIDE WITH MOUNTING PANEL, COOLING WATER INLET AND OUTLET VALVES, SAMPLE INLET METERING VALVE AND ISOLATION VALVE.									

BLOW DOWN SEPARATOR									
ITEM	TYPE	SERVICE	OPERATING PRESSURE PSIG	VALVE SIZE IN	DRAIN SIZE IN	VENT SIZE IN	OP WGT LBS	MANUFACTURER & MODEL NO.	NOTES
NOTES: 1. PROVIDE WITH AFTERCOOLER MODEL 18DF-5, 2" SOLENOID VALVE AND STRAINER KIT, AND FLOOR STAND.									

CONDENSATE PUMPING UNIT SCHEDULE												
ITEM	DWG. NO.	SERVICE	NO. OF PUMPS	GPM PER PUMP	HEAD PSI	MOTOR DATA			TANK CAP. GAL.	MANUFACTURER & MODEL NO.	NOTES	CONTROLS
						HP	V-PH	STRTR				
CP-1	MH103	BOILER PLANT	2	55.0	25	2@3	460/3	HOA	120	SHIPCO - ZDCC14		6
CP-2	MH103	BOILER PLANT	2	55.0	25	2@3	460/3	HOA	120	SHIPCO - ZDCC14		6

PUMP SCHEDULE															
ITEM	DWG. NO.	TYPE	SERVICE	GPM	% GLY.	TOTAL HEAD FT. W.C.	NPSH FT. W.C.	MOTOR DATA				OP. WT. LBS.	MANUFACTURER & MODEL NO.	NOTES	CONTROLS
								HP	RPM	V-PH	STRTR				
BFP-1	MH104	INLINE	BOILER FEED	40	0	376	12	7.5	3500	460-3	VFD	150	GRUNDFOS - G520		6
BFP-2	MH104	INLINE	BOILER FEED	40	0	376	12	7.5	3500	460-3	VFD	150	GRUNDFOS - G520		6
BFP-3	MH104	INLINE	BOILER FEED	40	0	376	12	7.5	3500	460-3	VFD	150	GRUNDFOS - G520		6
CTP-1	MH104	END SUC.	COND. TRANS.	58	0	134	28.7	3.0	3500	460-3	HOA	100	-		6
CTP-2	MH104	END SUC.	COND. TRANS.	58	0	134	28.7	3.0	3500	460-3	HOA	100	-		6

DEAERATOR SCHEDULE									
ITEM	MAX LOAD		SYSTEM CAPACITY TO OVERFLOW		ELECTRICAL	OP. WT. LBS.	MANUFACTURER & MODEL NO.	NOTES	CONTROLS
	LBS/HR	HP	GALS	MIN					
DA-1	24000	700	1024	-	NOTE 1	14000	BFS INDUSTRIES - 24MSX-155	1	6

SURGE TANK SCHEDULE									
ITEM	MAX LOAD		SYSTEM CAPACITY TO OVERFLOW		ELECTRICAL	OP. WT. LBS. EMPTY	MANUFACTURER & MODEL NO.	NOTES	CONTROLS
	LBS/HR	HP	GALS	MIN					
ST-1	24000	700	1000	-	NOTE 1	12,000	BFS INDUSTRIES - T1256189S-3	1	6

ECONOMIZER SCHEDULE																				
ITEM	DWG. NO.	TYPE	SERVICE	CAPACITY BTU/HR	CFM	AIR SIDE					WATER SIDE					MAX. WIDTH FEET	MAX. LENGTH FEET	OP. WGT LBS	MANUFACTURER & MODEL NO.	NOTES
						FLOW LBS/HR	VELOCITY FT/SEC	EAT °F	LAT °F	P.D. IN. W.C.	FLOW LBS/HR	EWT °F	LWT %	P.D. FT						
E-1	MH105	HORIZONTAL	BOILER NO. 1 FLUE	523,500	8,000	20,600	24.5	450	350	0.25	12,075	250	295	14.0	6'-0"	9'-4"	6,500	E-TECH	1	
E-2	MH105	HORIZONTAL	BOILER NO. 2 FLUE	523,500	8,000	20,600	24.5	450	350	0.25	12,075	250	295	14.0	6'-0"	9'-4"	6,500	E-TECH	1	
E-3	MH105	VERTICAL	BOILER NO. 3 FLUE	1,186,900	6,275	27,775	28.3	475	315	0.51	24,150	227	275.7	10.2	5'-0"	5'-3"	4,000	E-TECH		

DUST COLLECTOR (SPARK ARRESTOR) SCHEDULE									
ITEM	DWG. NO.	TYPE	SERVICE	COLLECTION EFFICIENCY	NO. OF TUBES	OPERATING TEMP °F	MANUFACTURER & MODEL NO.	NOTES	
									DC-1
DC-2	MH104	MULTICLONE COLLECTOR	BOILER NO. 2 FLUE	85% FOR 15 MICRONS AND LARGER	8	450	KING COAL FURNACE - 8STD9CBK15	1.2	

BAG HOUSE SCHEDULE												
ITEM	DWG. NO.	TYPE	AREA SERVED	CFM	MOTOR DATA				OP. WGT. LBS.	MANUFACTURER & MODEL NO.	NOTES	CONTROLS
					H.P.	RPM	V-PH	STRTR				
BH-1	MH104	WALK-IN PLENUM ACCESS	BOILER NO.1 FLUE	8000	1	-	460-3	-	16000	AEROPULSE BEWI-6-132-2073	1.2	A
BH-2	MH104	WALK-IN PLENUM ACCESS	BOILER NO.2 FLUE	8000	1	-	460-3	-	16000	AEROPULSE BEWI-6-132-2073	1.2	A

FAN SCHEDULE															
ITEM	DWG. NO.	TYPE	AREA SERVED	CFM	ESP IN. W.C.	DRIVE TYPE	SONES	MOTOR DATA				OP. WGT. LBS.	MANUFACTURER & MODEL NO.	NOTES	CONTROLS
								H.P.	RPM	V-PH	STRTR				
SF-1	MH105	RADIAL BLADE	BOILER NO.1 FLUE	8000	12.00	VFD	-	50	2750	460-3	VFD	3000	CINCINNATI FAN RBE-15	1.2,3	6
SF-2	MH105	RADIAL BLADE	BOILER NO.2 FLUE	8000	12.00	VFD	-	50	2750	460-3	VFD	3000	CINCINNATI FAN RBE-15	1.2,3	6

BOILER SCHEDULE (STEAM)														
ITEM	DWG. NO.	TYPE	CAPACITY			OP. PRESS PSIG	FUEL TYPE	BLOWER DATA			OP. WGT. LBS.	MANUFACTURER & MODEL #	NOTES	CONTROLS
			INPUT MBH @SL	OUTPUT MBH @SL	STEAM LBS/HR			HP	V-PH	STRTR				
B-1	MH104	FIRE BOX	12,075	11,639	125	COAL	-	460-3	VFD	72,400	KING COAL - HURST SERIES N-65	3,4,5	WITH BOILER	
B-2	MH104	FIRE BOX	12,075	11,639	125	COAL	-	460-3	VFD	72,400	KING COAL - HURST SERIES N-65	3,4,5	WITH BOILER	
B-3	MH104	FIRE-TUBE	29,300	23,430	24,000	125	NG	50	460-3	VFD	89,000	SUPERIOR SUPER SEMINOLE X6-5-3500-S150	1,2,6,7	WITH BOILER

TEMPORARY BOILER ROOM (STEAM)												
ITEM	DWG. NO.	TYPE	CAPACITY		OP. PRESS PSIG	FUEL TYPE	ELECTRICAL DATA		OP. WGT. LBS.	MANUFACTURER & MODEL #	NOTES	CONTROLS
			STEAM LBS/HR	OP. LBS/HR			V-PH	FLA				
TB-1	MH102	FIRE-TUBE	21,000	150	150	NG/F.O.#2	460-3	150	116,900	NATIONWIDE BOILER NBI-650-LN-G2-MBR	1,2,3	PACKAGED W/ BOILER TRAILER
TB-2	MH102	FIRE-TUBE	21,000	150	150	NG/F.O.#2	460-3	150	116,900	NATIONWIDE BOILER NBI-650-LN-G2-MBR	1,2,3	PACKAGED W/ BOILER TRAILER

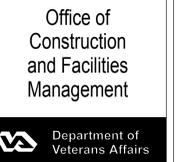
MECHANICAL/ELECTRICAL EQUIPMENT SCHEDULE									
CONTROLS (NOTE A. BELOW) REFERENCES THE "CONTROLS" COLUMN OF THE EQUIPMENT SCHEDULES									
NOTES: A. Controls: (1) From light switch (2) separate wall switch (3) switch with pilot light (4) runs continuously (5) interlock to run with other equipment (6) controlled by Division 23 09 11 (7) cycle from remote thermostat (8) other; see NOTES *Carries full current. Wiring done by Division 26 for control. See specifications. Also see "Temperature Control" specifications. B. Magnetic starters to have maintain contact unless noted. All starters by Mechanical unless noted to be by Electrical. C. Motors 1/2 HP and less to be 1750 rpm, 115/60/1, motors 3/4 HP and above to be as noted. D. Three phase starters on motors 5 HP or greater to have Phase Monitor Control Relay, see specification.									

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CONSTRUCTION DOCUMENTATION SUBMISSION - BIDDING & CONSTRUCTION					
Drawing Title MECHANICAL SCHEDULES		Project Title -BOILER PLANT -REPLACEMENT		Project Number - 666-11-101	
Approved: Project Director JASON BROWN		Location - SHERIDAN, WY		Building Number - 90	
Date 12/15/2011 BIDDING & CNSTN		Checked NGA		Drawing Number MI201	
		Drawn JTG		Dwg. of -	



STEAM TRAP SCHEDULE						
ITEM	DWG. LOCAT	SERVES	LOCATION	STEAM SIDE		NOTES
				OP. PRESS. PSIG.	ESTIMATED COND. LB/HR	
T-1	STEAM SCHEDULE	UH-1	CHEMICAL FEED ROOM	75	150	
T-2	STEAM SCHEDULE	UH-2	GENERATOR ROOM	75	200	
T-3	STEAM SCHEDULE	UH-3	BOILER ROOM	75	200	
T-4	STEAM SCHEDULE	UH-4	BOILER ROOM	75	20	
T-5	STEAM SCHEDULE	UH-5	BOILER ROOM	75	200	
T-6	STEAM SCHEDULE	UH-6	BOILER ROOM	75	200	
T-7	STEAM SCHEDULE	UH-7	BACKUP BOILER ROOM	75	300	
T-8	STEAM SCHEDULE	UH-8	BACKUP BOILER ROOM	75	300	
T-9	STEAM SCHEDULE	HPS HEADER LOOP	BELOW MEZZANINE	125	8,000	
T-10	STEAM SCHEDULE	HPS DRIP LEG PRV STATION	BELOW MEZZANINE	125	2,000	
T-11	STEAM SCHEDULE	FT-1	BELOW MEZZANINE	75	2,000	
T-12	STEAM SCHEDULE	MPS DRIP LEG PRV STATION	BELOW MEZZANINE	75	1,600	
T-13	STEAM SCHEDULE	FT-2	BELOW MEZZANINE	7	15,000	
T-14	STEAM SCHEDULE	LPS DRIP LEG PRV STATION	BELOW MEZZANINE	7	2,400	
T-15	STEAM SCHEDULE	BOILER 3 PRE HEATER	BACKUP BOILER ROOM	75	5,000	

NOTES:

UNIT HEATER SCHEDULE (STEAM)																	
ITEM	DWG. NO.	TYPE	CFM	MOTOR DATA			CAPACITY		OP. PRESS. PSIG.	TRAP LBS/HR	EAT °F	LAT °F	RUNOUTS		MANUFACTURER & MODEL NO.	NOTES	CONTROLS
				HP	V-φ	STRTR	MBH	LB/HR					STM. IN.	COND. IN.			
UH-1	MH104	HORIZ.	900	1/20	115/1	N/A	60.0	61.0	75	61.0	70.0	83.3	1 1/2	1 1/2	TRANE - UHS060	1	7
UH-2	MH104	HORIZ.	1400	1/12	115/1	N/A	84.0	85.0	75	85.0	70.0	75.0	1 1/2	1 1/2	TRANE - UHS084	1	7
UH-3	MH105	VERT.	1180	1/8	115/1	N/A	102.0	106.0	75	108.0	70.0	108.0	1 1/2	1 1/2	TRANE - UHP102	1	7
UH-4	MH105	VERT.	1180	1/8	115/1	N/A	102.0	106.0	75	108.0	70.0	108.0	1 1/2	1 1/2	TRANE - UHP102	1	7
UH-5	MH105	VERT.	1180	1/8	115/1	N/A	102.0	106.0	75	108.0	70.0	108.0	1 1/2	1 1/2	TRANE - UHP102	1	7
UH-6	MH105	VERT.	1180	1/8	115/1	N/A	102.0	106.0	75	108.0	70.0	108.0	1 1/2	1 1/2	TRANE - UHP102	1	7
UH-7	MH105	HORIZ.	2000	1/3	115/1	N/A	132.0	134.0	75	134.0	70.0	82.0	1 1/2	1 1/2	TRANE - UHS132	1	7
UH-8	MH105	HORIZ.	2000	1/3	115/1	N/A	132.0	134.0	75	134.0	70.0	82.0	1 1/2	1 1/2	TRANE - UHS132	1	7

NOTES: 1. FURNISH WITH FACTORY MOUNTING BRACKET AND THERMOSTAT.

STEAM SAFETY VALVE SCHEDULE							
ITEM	DWG. NO.	SERVICE	FLUID	TEMPERATURE	MINIMUM CAPACITY	SET PRESSURE	NOTES
SV-1	MH105	BOILER 1	STEAM	343	12,500 LB/HR	150 PSI	1
SV-2	MH105	BOILER 2	STEAM	343	12,500 LB/HR	150 PSI	1
SV-3	MH105	BOILER 3	STEAM	343	25,000 LB/HR	150 PSI	1
SV-4	MH105	DEAERATOR	STEAM	271	10,000 LB/HR	15 PSI	1
SV-5	MH105	PRV MED. PRESS.	STEAM	343	25,000 LB/HR	80 PSI	1

NOTES: 1. STEAM SAFETY VALVE SHALL BE FURNISHED BY MANUFACTURER OF ASSOCIATED EQUIPMENT.

STEAM METER SCHEDULE								
ITEM	DWG. NO.	SERVICE	FLUID	PRESSURE PSIG	MINIMUM FLOW	MAXIMUM FLOW	MANUFACTURER - MODEL	CONTROLS
M-1	STEAM SCHEMATIC	HPS TO LAUNDRY	STEAM	125	500 LB/HR	12,000 LB/HR	SITRANS - FX300	6
M-2	STEAM SCHEMATIC	MPS TO HOSPITAL	STEAM	75	1,500 LB/HR	35,000 LB/HR	SITRANS - FX300	6
M-3	STEAM SCHEMATIC	LPS TO DEAERATOR	STEAM	7	1,000 LB/HR	8,000 LB/HR	SITRANS - FX300	6
M-4	STEAM SCHEMATIC	MPS TO BLDG. HEAT	STEAM	75	750 LB/HR	15,000 LB/HR	SITRANS - FX300	6

FLASH TANK SCHEDULE							
ITEM	DWG. NO.	SERVICE	INLET PRESS. PSIG	OUTLET PRESS. PSIG	MINIMUM CAPACITY	MANUFACTURER - MODEL	NOTES
FT-1	MH104	HPR AT PRV STATION	125	75	5,000 LB/HR	PER SEPARATOR	
FT-2	MH104	MPR FROM PRV AND UNIT HEATERS	75	7	15,000 LB/HR	PER SEPARATOR	

MECHANICAL/ELECTRICAL EQUIPMENT SCHEDULE	
CONTROLS (NOTE A. BELOW) REFERENCES THE "CONTROLS" COLUMN OF THE EQUIPMENT SCHEDULES	
NOTES:	
A. Controls: (1) From light switch (2) separate wall switch (3) switch with pilot light (4) runs continuously (5) interlock to run with other equipment (6) controlled by Division 23 09 11 (7) cycle from remote thermostat (8) other: see NOTES. * Carries full current. Wiring done by Division 26 for control. See specifications. Also see "Temperature Control" specifications.	
B. Magnetic starters to have maintain contact unless noted. All starters by Mechanical unless noted to be by Electrical.	
C. Motors 1/2 HP and less to be 1750 rpm, 115/60/1, motors 3/4 HP and above to be as noted.	
D. Three phase starters on motors 5 HP or greater to have Phase Monitor Control Relay, see specification.	

HEAT TRACE					
ITEM	PIPE SIZE	WATTS/ SQ FT	V-φ	MANUFACTURER & MODEL	CONTROLS
HT-1	2"	5	115-1	RAYCHEM 5XL1-CR	6

NOTES: 1. PROVIDE HT-1 ON ALL OUTDOOR MAKE-UP WATER PIPING
2. PROVIDE WITH DIGITRAC C910 SERIES CONTROLLER.

CHEMICAL FEEDER SCHEDULE											
ITEM	DWG. NO.	SERVICE	TANK			PUMP				NOTES	
			MANUFACTURER & MODEL NO.	CAPACITY GAL.	MATERIAL	MANUFACTURER & MODEL NO.	GPH	DISCHARGE PRESS (PSI)	HP		V/PH
CF-1	MH104	BOILER FEED	NEPTUNE 50PT	50	POLYETHYLENE	NEPTUNE 520-E-N8	2.0	150	1/3	115/1	1,2,3
CF-2	MH104	BOILER FEED	NEPTUNE 50PT	50	POLYETHYLENE	NEPTUNE 520-E-N8	2.0	150	1/3	115/1	1,2,3
CF-3	MH104	BOILER FEED	NEPTUNE 50PT	50	POLYETHYLENE	NEPTUNE 520-E-N8	2.0	150	1/3	115/1	1,2,3
CF-4	MH104	STEAM HEADER	NEPTUNE 50PT	50	POLYETHYLENE	NEPTUNE 520-E-N8	2.0	150	1/3	115/1	1,2,3
CF-5	MH104	DEAERATOR	NEPTUNE 50PT	50	POLYETHYLENE	NEPTUNE 520-E-N8	2.0	10	1/3	115/1	1,2,3

NOTES: 1. TANK SHALL BE COMPLETE WITH VALVES, STRAINER AND PIPING.
2. PROVIDE WITH HINGED COVER, AGITATOR BRACKET, AGITATOR (1/4 HP, 115V) AND DISSOLVING BUCKET.
3. PUMP SHALL BE PROPORTIONING TYPE, ADJUSTABLE, WITH INTEGRAL RELIEF VALVE.

AIR COMPRESSOR SCHEDULE													
ITEM	DWG. NO.	TYPE	CAP SCFM AT ALTTT.	PRESS. PSI	MOTOR DATA				OP. WT. LBS.	MANUFACTURER & MODEL NO.	SERVES	NOTES	CONTROLS
					HP	RPM	V-PH	STRTR					
AC-1	MH104	ROTARY SCREW	130	125	40	-	460-3	INT.	1700	QUINCY COMPRESSOR QSB 40	BOILER PLANT	1,2,3	8
AC-2	MH104	ROTARY SCREW	130	125	40	-	460-3	INT.	1700	QUINCY COMPRESSOR QSB 40	BOILER PLANT	1,2,3	8

NOTES: 1. PROVIDE WITH FULL VOLTAGE INTEGRAL STARTER, AIR DISCHARGE CHECK VALVE, AND ACOUSTICAL ENCLOSURE.
2. PROVIDE WITH PACKAGED CONTROLS WITH TWO SETS OF AUXILIARY CONTACTS FOR CONNECTION TO DDC SYSTEM.
3. PROVIDE WITH LOW SOUND CANOPY.

AIR DRYER SCHEDULE												
ITEM	DWG. NO.	SERVICE	CAP SCFM	TYPE	MOTOR DATA			MANUFACTURER & MODEL NO.	NOTES	CONTROLS		
					HP	V-PH	STRTR					
AD-1	MH104	AC-1,2	104	DESSICANT	-	115-1	INTEGRAL	QUINCY COMPRESSOR GDTH-200	1,2,3	8		
AD-2	MH104	AC-1,2	104	DESSICANT	-	115-1	INTEGRAL	QUINCY COMPRESSOR GDTH-200	1,2,3	8		

NOTES: 1. 40°F DEWPOINT OUTLET TEMPERATURE.
2. MICROPROCESSOR CONTROL WITH TWO SETS OF AUXILIARY CONTACTS FOR CONNECTION TO DDC SYSTEM.
3. PROVIDE WITH DUAL PRE-FILTERS, AFTER FILTERS, 120V-1 PHASE ELECTRONIC DRAIN AND VALVE BYPASS SYSTEM.

AIR RECEIVER TANK SCHEDULE										
ITEM	DWG. NO.	SERVICE	CAP GALLONS	TYPE	PRESS. PSI	DIMENSIONS		OP. WT. LBS.	MANUFACTURER & MODEL NO.	NOTES
						DIA. INCHES	HEIGHT INCHES			
RT-1	MH104	BAGHOUSE 1,2	200	VERTICAL	100	30	72	600	MANCHESTER TANK 302426	-
RT-2	MH104	ECONOMIZER 1	120	VERTICAL	125	30	46	450	MANCHESTER TANK 302423	-
RT-3	MH104	BOILER 2	120	VERTICAL	115	30	46	450	MANCHESTER TANK 302423	-
RT-4	MH104	BOILER 1	120	VERTICAL	115	30	46	450	MANCHESTER TANK 302423	-
RT-5	MH104	ECONOMIZER 2	120	VERTICAL	125	30	46	450	MANCHESTER TANK 302423	-

UNIT TAG	EQUIPMENT TYPE	LOCATION	BASE TYPE	ISOLATOR-RESTRAINT TYPE	MIN. DEFLECTION (IN.)	SEISMIC RESTRAINT REQD	SEISMIC COMPONENT IMPORTANCE FACTOR, IP	NOTES
CP-1,2	CONDENSATE PUMPS	GRADE	NO BASE			YES	1.5	1,3,4,5
UH-1,2,3,4,5,6,7,8	UNIT HEATERS	SUSPENDED		SRK	-	YES	1.5	1,3,6
BFP-1,2,3	BOILER FEED PUMPS	GRADE	SIPS	NSN	0.15	YES	1.5	1,3,4,5
CTP-1,2	CONDENSATE TRANSFER PUMPS	GRADE	CONCRETE-4"	SFS	0.75	YES	1.5	1,3,4,5
CF-1,2,3,4,5	CHEMICAL FEED SYSTEM	GRADE	CONCRETE-4"	SRB	-	YES	1.5	1,3
RT-1,2,3,4,5	RECEIVER TANKS	SUSPENDED	-	SRK	-	YES	1.5	1,3,6
B-1,2,3	BOILERS	GRADE	CONCRETE-4"	SCSR	0.25	YES	1.5	1,3,4,5
TB-1,2	TEMPORARY BOILERS	GRADE	NO BASE	SCSR	0.25	YES	1.5	1,3,4,5
DA-1	DEAERATOR TANK	MEZZANINE	NO BASE	-	-	YES	1.5	1,3
ST-1	SURGE TANK	MEZZANINE	NO BASE	-	-	YES	1.5	1,3
SF-1,2	STACK FANS	PLATFORM	SB	SFS/AHCS	0.75	YES	1.5	1,2,3
AD-1,2	AIR DRYER	GRADE	CONCRETE-4"	SRB	-	YES	1.5	1,3
AC-1,2	AIR COMPRESSORS	GRADE	CONCRETE-4"	SRB	0.75	YES	1.5	1,3,4,5
WS-1	WATER SOFTENER	GRADE	CONCRETE-4"	SRB	-	YES	1.5	1,3
BDS-1	BLOWDOWN SEPARATOR	GRADE	CONCRETE-4"	SRB	-	YES	1.5	1,3
E-1,2,3	FLUE ECONOMIZERS	SUSPENDED	-	SRK	-	YES	1.5	1,3
BH-1,2	BAGHOUSE	GRADE	CONCRETE-4"	SCSR	0.25	YES	1.5	1,3,4,5
DUCTWORK	DUCTWORK	SUSPENDED	-	SRK	-	YES	1.5	1,3
PIPING	PIPING	SUSPENDED	-	SRK	-	YES	1.5	1,3

BASE TYPE:
SIPS - IN-LINE PUMP STAND
CIB - CONCRETE INERTIA BASE
SB - STEEL BASE

ISOLATOR TYPE:
SCSR - SEISMIC RESTRAINED FLOOR MOUNT
SRB - SEISMIC RESTRAINT BRACKET
NSN - NEOPRENE/STEEL/NEOPRENE PAD
SRK - SEISMIC RESTRAINT KIT
SFS-SEISMIC FLOOR MOUNT
AHCS - EQUIPMENT MOUNTED ADJUSTABLE THRUST

NOTES:
1. BASIS OF DESIGN: VIBRO-ACOUSTICS
2. PROVIDE SPRING THRUST RESTRAINTS
3. SEISMICALLY RATED FOR PROJECT CONDITIONS
4. PROVIDE ELSTOMERIC FLEXIBLE PIPING CONNECTORS
5. PROVIDE TYPE SH OR FS ISOLATORS ON ADJACENT PIPING/DUCTWORK. SEE SPECS
6. PROVIDE SEISMIC RESTRAINT CABLES, PROVIDE ROD STIFFENERS AS REQUIRED

BOILER BLEED/FEED WATER PRE-HEATER										
ITEM	TYPE	SERVICE	BOILER OPER. PRESS. PSI	BOILERS HP	BLOW DOWN GPM	MAKE UP WATER GPM	MANUFACTURER & MODEL NO.	NOTES	CONTROLS	
SBD-1	VERTICAL	BOILER PLANT	125	700	10.0	10.0	INDUSTRIAL STEAM - SN-5	1	6	

NOTES: 1. PROVIDE WITH DRAIN VALVE AND LEVEL CONTROL. LEVEL ALARM, LEVEL ALARM CONTROL PANEL, THERMOMETERS, FLOW CONTROL VALVE AND ASSEMBLY, SAFETY VALVE, GAUGE GLASS, PRESSURE GAUGE, AND GAUGE PANE PANEL.

CONSTRUCTION DOCUMENTATION SUBMISSION - BIDDING & CONTRUCTION

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