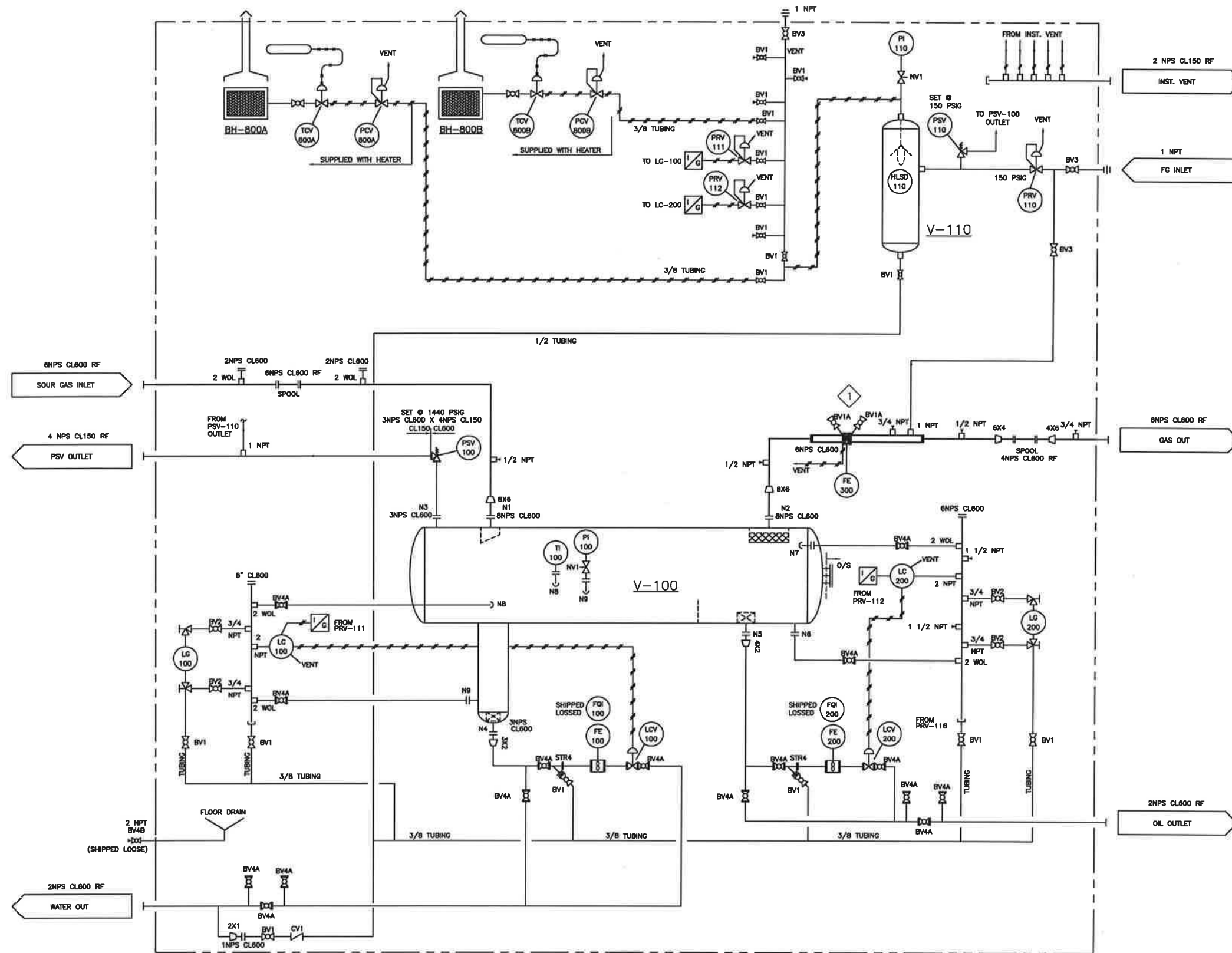


BH-800A/B
BUILDING HEATER
VENDOR: CCI THERMAL TECHNOLOGIES
MODEL: BX24x24
DUTY: 20000 BTU HEATERS
SERVICE: NATURAL GAS, C/W
100% SSOV, PROTECTION GRILLS, FISHER 912
REGULATOR, THERMOSTAT & WIRED 12V DC.

V-100
SOUR INLET SEPARATOR
VENDOR:
SIZE: 60" OD X 20'-0" S/S
D.P.: 1440 PSIG @ -20/100°F
CA: 1/8", PWHT, 100% RT
S/N: 1991-15-A1-1
CRN: U9223.21

V-110
SCRUBBER
VENDOR:
SIZE: 8 3/4" OD X 30' S/S
D.P.: 300 PSIG @ -20/200°F
CA: 1/8", PWHT, 100% RT C/W HLSD
FLOAT
S/N: 1991-15-K1-1
CRN: V8587.213



BILL OF MATERIALS				
ITEM	QTY	MAKE	DESCRIPTION	
INSTRUMENTS				
FE-300	1	CANALTA	6NPS CL600 ANSI SENIOR METER RUN C/W SCH 80 METER TUBE, AGA/API 14.3 PART 2, 4TH EDITION 2000, 100% RT, PWHT, STD. TRIM W/ ONE (1) 1 NPT CL6000 TOL & ONE (1) 3/4 NPT CL6000 TOL DOWNSTREAM, NACE	
TI-100	1	PFOITNER	MODEL 25302 3" DUAL SCALE C/W 12" 316SS THERMOWELL, SOUR	
PSV-100	1	MERCER	MODEL 91-53F11P25N1, 2NPS CL600 (6 3/4") x 3NPS CL150 (6 3/4") SET @ 1440 psig, SOUR	
PSV-110	1	MERCER	MODEL 81-17151V09N11, 1 X 1 NPT SET @ 150 PSIG, SOUR	
HLSD-110	1	LOUVERS & GAUGES	FUEL GAS SHUT OFF VALVE C/W FLOAT FGSO-2-11	
PI-100	1	WIKA	MODEL 233.54, 4" LIQUID FILLED, 0-1500 PSIG, DUAL SCALE, 316SS	
PI-110	1	WIKA	MODEL 233.53, 2 1/2" LIQUID FILLED, 0-160 PSIG, DUAL SCALE, 316SS	
LCV-100	1	NORRISEAL	MODEL 2220, 2NPS CL600 RF CONTROL VALVES ATO/F.C. C/W 1/4" SST TRIM, NACE	
LCV-200	1	NORRISEAL	MODEL 2220, 2NPS CL600 RF CONTROL VALVES ATO/F.C. C/W 1" SST TRIM, NACE	
FE-100	2	PRIMARY FLOW	MODEL WM0200, 2NPS CL600 ANSI WAFER EZ-IN TURBINE METERS	
FE-200				
LG-200				
LG-100	1	PENBERTHY	MODEL 1RM5 REFLEX GAUGE C/W 330J GAGE VALVES, SOUR	
LC-100/LC-200	2	FISHER	MODEL 1TM5 TRANSPARENT GAUGE C/W 330J GAGE VALVES, SOUR	
PRV-110	1	CVS	L2 LIQUID LVL. CONTROLLER C/W 1 1/2" X 12" SOUR SERVICE DISPLACER	
PRV-111	2	CVS	MODEL: 627, 1 NPT, 70-150 PSIG, INSTRUMENT REGULATOR	
PRV-112			MODEL 67 CFR, 0-125 PSIG, INSTRUMENT REGULATORS, NACE	
FQI-100/FQI-200	2	TURBINES INC.	E SERIES FLOW INDICATOR/TOTALIZER MODEL E110-P-AH-CX-HAA-IB-OT-PB-PX-XD-ZB-1TU	
VALVES				
BV1	17	JAG	1/2 NPT 2000# BALL VALVES, NACE	
BV1A	2	JAG	1/2 NPT 2000# FP BALL VALVES, NACE	
BV2	4	JAG	3/4 NPT 2000# BALL VALVES, NACE	
BV3	3	JAG	1 NPT 2000# BALL VALVES, NACE	
BV4A	16	JAG	2 NPS CL600 RF REGULAR PORT BALL VALVES, NACE	
BV4B	1	JAG	2 NPT 2000# BALL VALVE, SKID DRAIN	
NV1	2	AGCO	MODEL # H7VIS-44Q, 1/2" MNPT X 1/2" FNPT 6000# 316ss	
CV1	1	VELAN	1/2 NPT 800# PISTON CHECK VALVE, NACE	
STR4	2	ALTA STRAINER	2 NPS CL600 RF Y-STRAINERS, NACE	
EQUIPMENT				
BH-800A/B	2	CCI THERMAL TECHNOLOGIES	BX24x24, 20,000 BTU NATURAL GAS HEATERS, C/W 100% S.S.O.V., FISHER 912 REGULATORS, THERMOSTATS, PROTECTION GRILLS & WIRED 12V DC.	

DRAWINGS			
	AS BUILT		02.19.19
1	REVISED QTY OF BV4A, BV1 & ADDED BV1A		08.13.18
0	ISSUED FOR CONSTRUCTION		08.13.18
REV.	DESCRIPTION	BY: CHKD CHKD DM	DATE

PROJECT MANAGER		END USER	
		CLIENT	
CHKD BY		MQ STOCK	
		DISTRIBUTION	
DRAWING NO.		QC	1
		SHOP	
DATE		PROCUREMENT	
		PROD. MANAGER	
SCALE		PROV. / P. ENG	
		CLIENT	
NTS		TOTAL	1

NOZZLE SCHEDULE

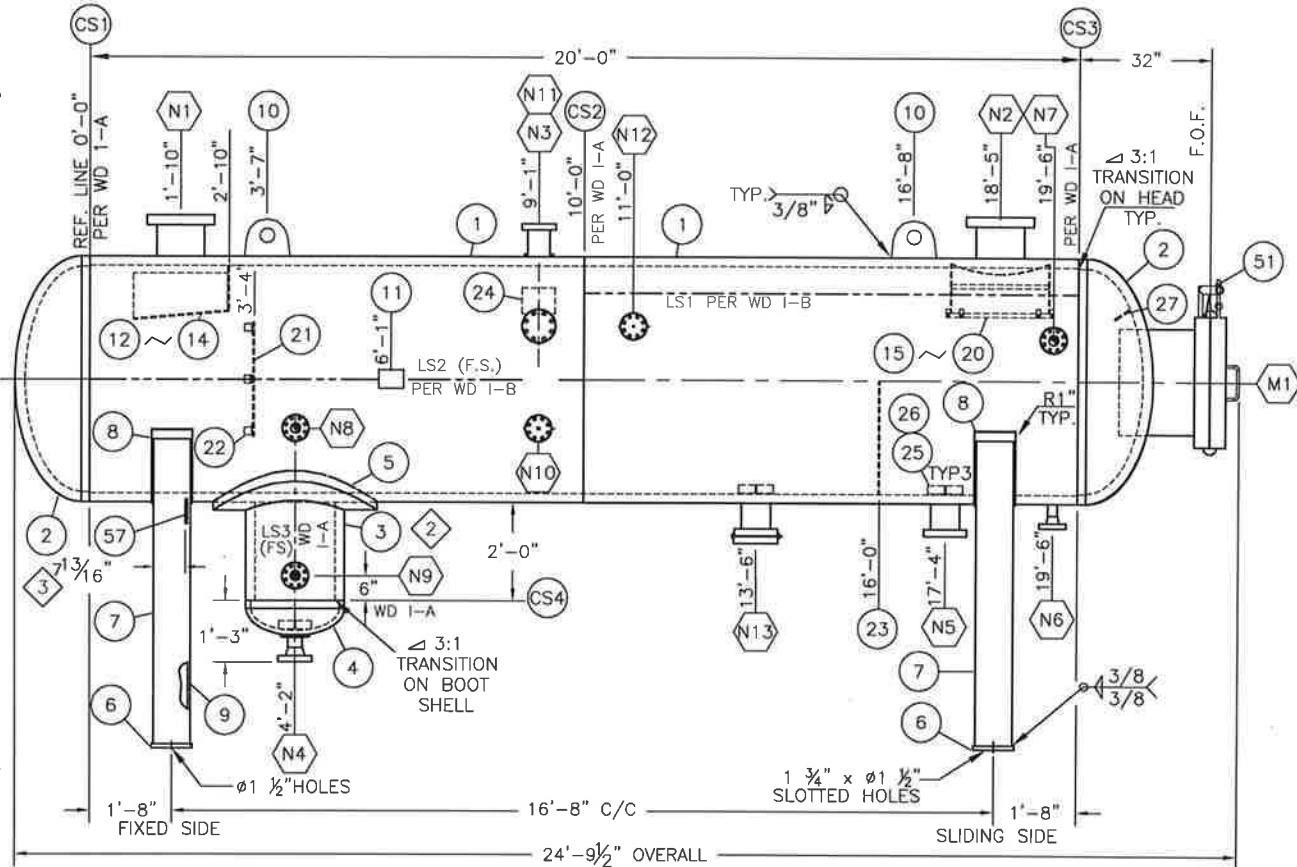
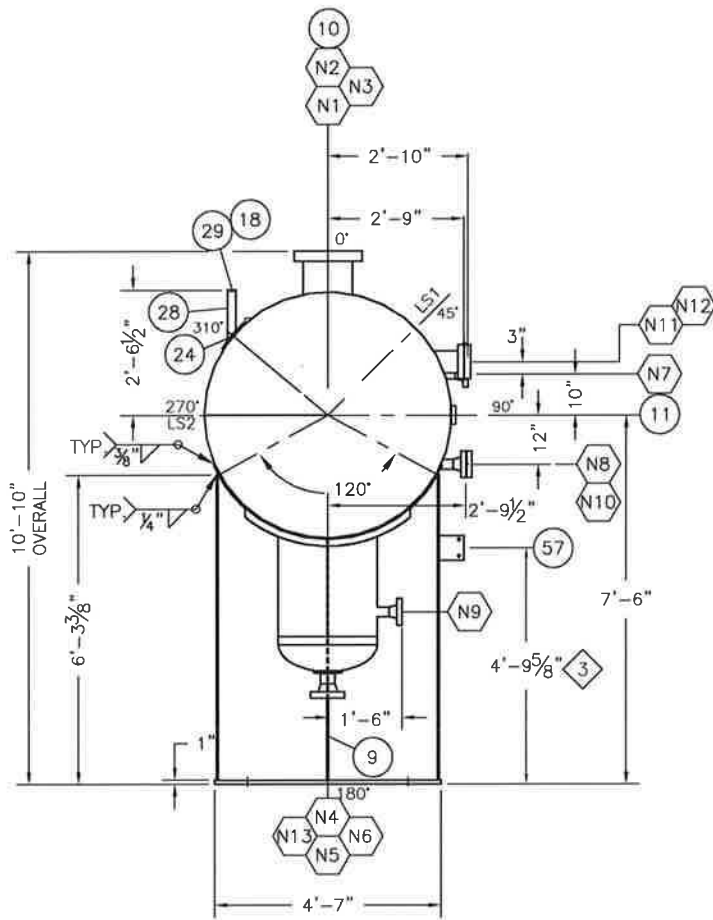
MARK	QTY	SIZE	SCH.	RATING & FACING	SERVICE	PROJECTION		REPAD SIZE	WELD SIZE	WD#	ITEM
						INSIDE (H)	OUTSIDE				
N1	1	8"	HB	CL600 RFHB	INLET	SET FLUSH	10"	—	—	II	30
N2	1	8"	HB	CL600 RFHB	GAS OUTLET	SET FLUSH	10"	—	—	II	30
N3	1	3"	HB	CL600 RFHB	PSV	1/2"	8"	—	—	III	31
N4	1	3"	160	CL600 RFWN	WATER OUTLET	GND FLUSH	AS SHOWN	7"	1/2"	IV/VIII	32,33,34
N5	1	4"	HB	CL600 RFHB	CONDENSATE OUT	SET FLUSH	8"	—	—	II	35
N6	1	2"	160	CL600 RFWN	BRIDDL 1	SET FLUSH	6"	—	—	II/VIII	36,37
N7	1	2"	160	CL600 RFWN	BRIDDL 1	SET FLUSH	AS SHOWN	—	—	II/VIII	36,38
N8	1	2"	160	CL600 RFWN	BRIDDL 2	SET FLUSH	AS SHOWN	—	—	II/VIII	36,38
N9	1	2"	160	CL600 RFWN	BRIDDL 2	SET FLUSH	6"	—	—	II/VIII	36,39
N10	1	2"	160	CL600 RFWN	TI	SET FLUSH	AS SHOWN	—	—	II/VIII	36,38,40,41,42
N11	1	3"	HB	CL600 RFHB	HLSD	1/2"	AS SHOWN	—	—	III	31,53,54,55
N12	1	2"	160	CL600 RFWN	PI	SET FLUSH	AS SHOWN	—	—	II/VIII	36,38,41,42,43
N13	1	4"	HB	CL600 RFHB	SPARE	SET FLUSH	8"	—	—	II	35,44,45,46
BOOT	1	24"	2 1/4"	PLATE	WATER BOOT	GND FLUSH	24"	40"	2"	IV	3,4,5
M1	1	20"	HB	CL600 RFHB	MANWAY	4"	AS SHOWN	—	—	III	47-51

NOTES:

- IMPACT TESTING: YES ; 60" OD SHELLS, 60" OD HEADS, BOOT SHELL, BOOT REPADS SHALL BE IMPACT TESTED TO 15 FT-LB PER UG-84 FOR -20°F MDMT PLUS PRODUCTION IMPACT TESTS.
- NO: FOR REMAINING COMPONENTS EXEMPT PER UCS-66(a), UCS-66(b)(1)(c), ASME SECT II-A AND FIG. UCS-66 NOTE c.
- UT 60" OD SHELLS, 60" OD HEADS, BOOT SHELL, BOOT REPAD PER SA-435 AT 6" GRID.
- 60" OD HEAD TRANSITION 3:1 TO MATCH 60" OD SHELL 2 1/4" THK(TYPICAL).
- ONE END OF 24" OD SHELL TRANSITION 3:1 TO MATCH 24" OD HEAD 1 1/4" THK.
- 60" OD SHELL LONG SEAM DOUBLE V - 22.5' 2/3 t (OUTERSIDE), 22.5' 1/3 t (INNERSIDE) AND BOTH END CIRC SEAMS - SINGLE V 22.5'
- 24" OD BOOT SHELL LONG SEAM SINGLE V - 22.5' AND ONE END CIRC SEAM - SINGLE V 22.5' TRANSITION 3:1 TO 1 1/4" THK, OTHER SIDE CIRC SEAM SHALL BE PLANE END (NO TRANSITION, NO V GROOVE).
- RADIOGRAPHY: FULL AS PER UW-11(a) AND 100% OF ALL NOZZLES.
- EXTERNAL LOADINGS PER UG-22(a), (b) AND (d).
- ALL ATTACHMENTS WITH NO WELD SYMBOLS SHALL BE ATTACHED WITH A MINIMUM 1/8" FILLET WELD USING WELD PROCEDURE MQI-2.
- LONG SEAMS PER WD I-B AND CIRC SEAMS PER WD I-A.
- EXTERIORS OR INTERIOR CORNERS OR EDGES SHALL BE CHAMFERED TO MIN. 1/8" OR ROUNDED TO A MIN. 1/8" RADIUS UNLESS OTHERWISE INDICATED.
- ALL REPADS TO HAVE 3/4" NPT DRILLED WEEP HOLES SET TO THE LOWEST ELEVATION.
- FABRICATION TOLERANCES SHALL BE IN ACCORDANCE WITH MAR-QUINN INDUSTRIES LTD. STANDARD VESSEL TOLERANCE QCP 10-4, ±1/8" OR 1/2 DEGREE.
- HYDROTEST VESSEL WITH PIPING TO 2160 PSIG.
- INTERNAL PREPARATION FOR FUTURE INTERNAL COATING.

BILL OF MATERIALS FOR 1991-15-A1-1

ITEM	QTY	DESCRIPTION	PRCH
1	2	SHELL, 60" OD x 10'-0" LG x 2 1/4" ROLLED PLATE, SA-516-70N	
2	2	HEAD, 60" OD x 2 1/2" NOM. (2.375 MIN.) THK. 2:1 SE HOT FORMED PLATE, C/W 2" SF, 3:1 TRANSITION TO 2 1/4" THK. SA-516-70N	
3	1	BOOT SHELL, 24" OD x 29' x 2 1/4" ROLLED PLATE TRIM AS NEEDED, 3:1 TRANSITION ONE END TO 1 1/4" THK. SA-516-70N	
4	1	BOOT HEAD, 24" OD x 1 1/4" NOM. (1.14 MIN.) THK. 2:1 SE HOT FORMED PLATE C/W 2" SF, SA-516-70N	
5	1	BOOT REPAD, 40" OD x 2" THK ROLLED TO 60" ID, SA-516-70N	
6	2	BASE PLATE, FB10 X 55" (W) x 1" THK PLATE - DETAIL SEE SHT 2, 44W	
7	2	SADDLE, 54" (W) x 9" (L) x 74 3/8" H x 3/8" THK. FORMED CHANNEL PLATE, 44W	
8	2	WEAR PLATE, 10" (W) x 70" (L) x 3/8" THK. ROLLED TO 60" ID, SA-516-70N	
9	2	RIB, FB8 x 58 3/4" (H) x 3/8" THK, DETAIL SEE SHT 2, 44W	
10	2	LIFTING LUG, 11" (W) x 9" (H) x 1" THK W/ 3 1/2" HOLE, PLATE, SEE DETAIL, SA-516-70N	
11	1	MARQUINN NAMEPLATE c/w BRACKET, 44W/304SS	
12	1	INLET DIVERTER, 20" x 23" x 3/8" THK. (BOTTOM PLATE), SA-36/44W	
13	2	SIDE PLATE, 9" H x 11" H x 23" W x 3/8" THK., SA-36/44W	
14	1	BACK PLATE, 11" W x 20" L x 3/8" THK. (SHOP TO SUIT TO SHELL ID), SA-36/44W	
15	1	MISTPAD, 23 1/2" OD x 6" x 9" FT (TWO PIECES) C/W GRIDS, 316SS	
16	1	MISTPAD SUPPORT, 24 NPS SCH 10 ERW PIPE x 1'-0" LG, SA-53B	
17	3	TOP GRID SUPPORT, 1 - FB1 x 23 7/8" x 1/4" THK & 2 - FB1 x 18" x 1/4" THK, 44W	
18	18	MECHANICAL BOLTS, 1/2" x 2" c/w 1 NUT (SA-194-2HM) & 2 SS WASHERS, SA-193-B7M	
19	3	REMOVABLE GRID, 1 - FB1 x 28 1/2" x 1/4" THK & 2 - FB1 x 20 3/8" x 1/4" THK C/W (2) 5/8" HOLES, ONE ON EACH END, 44W	
20	6	CLIPS, FB1 x 2" x 1/4" THK, C/W (1) 5/8" HOLE, 44W	
21	1	BAFFLE PLATE, 28" x 55 1/4" x 3/8" THK ROUNDED ON TWO END, SA-36/44W - SEE DETAIL,	
22	8	CLIPS, L2x2x1/4" ANGLE IRON X 2" LG, 44W	
23	1	WEIR PLATE, 3/8" THK., SA-36/44W, - SEE DETAIL	
24	1	POISON PAD, 8" x 8" x 3/8" THK. ROLLED TO 60" ID, SA-516-70N	
25	3	REMOVABLE VORTEX BREAKER, FB 2X1/4" X 8" 44W C/W ONE(1) 5/8" HOLE - SEE DETAIL	
26	6	REMOVABLE VORTEX BREAKER, FB 2X1/4" X 4" 44W C/W ONE(1) 5/8" HOLE - SEE DETAIL	
27	1	GRAB HANDLE, 5/8" ROUND BAR x 20" LG, FORMED U, 44W	
28	1	SQ. TUBING 2X2X1/4", 12" LG, 44W TBD	
29	1	FB 2X1/4", 7" LG c/w (2) 5/8" HOLES, 44W	
30	2	FLANGE, 8NPS CL600 RFHB, 13" LG OAL (N1,N2), SA-350-LF2-CL1	
31	2	FLANGE, 3NPS CL600 RFHB, 11" LG OAL (N3,N11), SA-350-LF2-CL1	
32	1	FLANGE, 3NPS CL600 RFWN SCH 160 BORE (N4), SA-105N	
33	1	NOZZLE, 3NPS SCH 160 x 4 1/8" LG (N4), SA-106B	
34	1	REPAD, 7" OD x 1/2" THK DISHED TO 24" OD HEAD, (N4) SA-516-70N	
35	2	FLANGE, 4NPS CL600 RFHB, 10 1/2" LG (N5,N13), SA-350-LF2-CL1	
36	6	FLANGE, 2 NPS CL600 RFWN SCH 160 BORE (N6-N10, N12), SA-105N	
37	1	NOZZLE, 2 NPS SCH 160 x 5 1/16" LG (N6), SA-106B	
38	4	NOZZLE, 2 NPS SCH 160 x 6 1/2" LG (N7,N8,N10,N12), SA-106B	
39	1	NOZZLE, 2 NPS SCH 160 x 5 1/2" LG (N9), SA-106B	
40	1	FLANGE, 2NPS CL600 RFBL TAP w/ 3/4" NPT, (N10) SA-105N	
41	2	GASKET, 2" CL600, 1/8" THK. SPIRAL WOUND, (N10, N12) 316SS	
42	2	(B)STUDS, 5/8" x 4 1/4" LG c/w 2 NUTS (SA-194-2HM), (N10, N12) SA-193-B7M	
43	1	FLANGE, 2NPS CL600 RFBL TAP w/ 1/2" NPT, (N12) SA-105N	
44	1	BLIND FLANGE, 4NPS CL600 RFBL, (N13) SA-105N	
45	1	GASKET, 4" CL600 1/8" THK. SPIRAL WOUND, (N13) 316SS	
46	1	(B) STUDS, 5/8" x 5 3/4" LG c/w 2 NUTS, (N13) SA-194-2HM/SA-193-B7M	
47	1	MANWAY FLANGE, 20NPS CL600 RFHB, 22" LG OAL, (M1) SA-350-LF2-CL1	
48	1	BLIND FLANGE, 20NPS CL600 RFBL, (M1) SA-105N	
49	1	GASKET, 20" CL600 1/8" THK. SPIRAL WOUND, (M1) 316SS	
50	1	(24) STUDS, 1/2" x 11 1/4" LG c/w 2 NUTS, (M1) SA-194-2HM/SA-193-B7M	
51	1	DAVIS ASSEMBLY FOR 20NPS CL600 MANWAY-MAR-QUINN STANDARD	
52	4	MECHANICAL BOLTS, 1/4" x 4 1/2", GRB	
53	1	BLIND FLANGE, 3NPS CL600 RFBL, (N11) SA-105N	
54	1	GASKET, 3" CL600 1/8" THK. SPIRAL WOUND, (N11) 316SS	
55	1	(B) STUDS, 5/8" x 5" LG c/w 2 NUTS, (N11) SA-194-2HM/SA-193-B7M	
56	6	FB 2 1/4"X1/4" X 2" C/W ONE (1) 5/8" HOLE FOR VORTEX, 44W	
57	1	BRIDLE SUPPORT PLATE, FB/PL 6X6X1/2", 36/44W, C/W (2) 5/8" HOLES	



ELEVATION VIEW
SCALE: 1/4" = 1'-0"

END VIEW A-A

SCALE: 1/4" = 1'-0"
(FIXED SIDE SADDLE NOT SHOWN)

WELD PROCEDURE SPECIFICATION:

MINIMUM PREHEAT TEMPERATURE:
A) 1/8" TO 1 1/2" THK PREHEAT TO 50°F
B) 1 1/2" THK & OVER PREHEAT TO 200°F

MQI-4 CVN REV 1: GMA-SMA-P1-P1-HT-LT
MQI-6 CVN REV 1: SAW-P1-P1-HT-LT
MQI-13 : SMA-SMA-P1-P1-HT-LT

I-A	I-B	II	III	IV	VIII
WP# MQI-6 REV 2 WP# MQI-4 REV 2	WP# MQI-6 REV 2 WP# MQI-4 REV 2	WP# MQI-4 REV 2	WP# MQI-4 REV 2	WP# MQI-4 REV 2	WP# MQI-4 REV 2

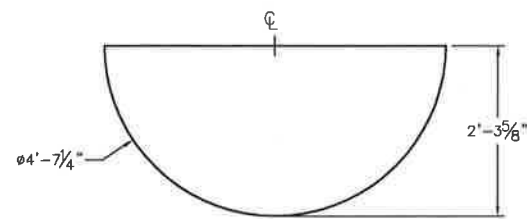
WHEN DISCREPANCY OR DOUBT EXIST, PLEASE VERIFY AND CONFIRM.

REV.	DESCRIPTION	BY	CHKD	DM	DATE
4	AS BUILT	HL	HL	RC	02.19.19
3	REVISED ITEM 56	XH	XH	HL	11.27.15
2	REVISED QTY. OF ITEM 18 & 56	XH	XH	HL	11.25.15
1	REVISED N9 PROJECTION, BOOT LS WELD DETAIL	XH	XH	HL	09.23.15
0	REVISED BOM ITEMS 15 & 16	XH	XH	HL	09.14.15
	ISSUED FOR CONSTRUCTION	XH	XH	HL	09.03.15
	DESCRIPTION	BY	CHKD	DM	DATE

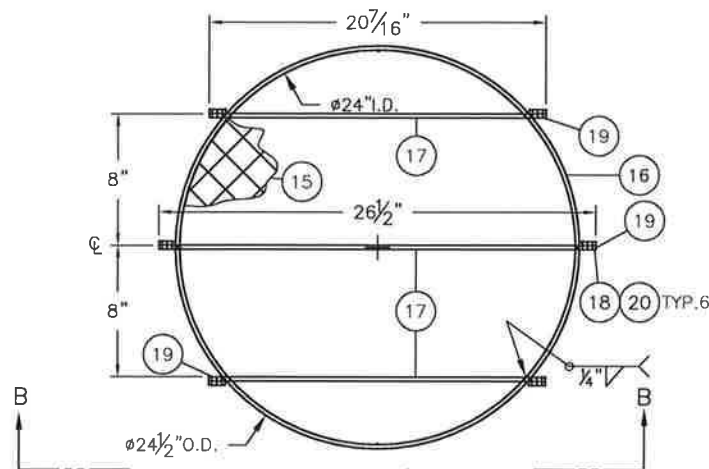
VESSEL DESIGN DATA

U W RT1 HT		DESIGNED AND FABRICATED TO ASME CODE SECTION VIII DIV 1 - 2013 EDITION	
DESIGN PRESSURE:	1440 PSIG	EFFICIENCY:	1.0 PER UW-12d
DESIGN TEMPERATURE:	100°F	VOLUME:	366.7 CU. FT.
CORROSION ALLOWANCE:	1/8"	OVERALL LENGTH:	24'-9 1/2"
M.D.M.T.:	-20°F @ 1440 PSIG	WEIGHT (EMPTY):	43,000 LBS.
HYDROSTATIC TEST:	SEE NOTE 14	WEIGHT (FULL):	65,882 LBS.
RADIOGRAPHY:	FULL (SEE NOTE 7)	REFERENCE DWG.	389 REV A
P.W.H.T.:	YES, 135 MIN @ 1150°F	CRN NO.	U9226.21
ALL BOLT HOLES TO STRADDLE CENTERLINES UNLESS OTHERWISE NOTED			
PROJECT MANAGER		END USER	
1991-11-1		MQ STOCK	
CHKD BY		DISTRIBUTION	
OWN BY		QTY.	
DRAWING NO.		MAR-QUINN	
1991-		QC	
SCALE		SHOP	
AS SHOWN		PROCUREMENT	
DATE		PROD. MANAGER	
Mar-07-2019		PROV. / P. ENG	
TOTAL		CLIENT	
1		TOTAL	

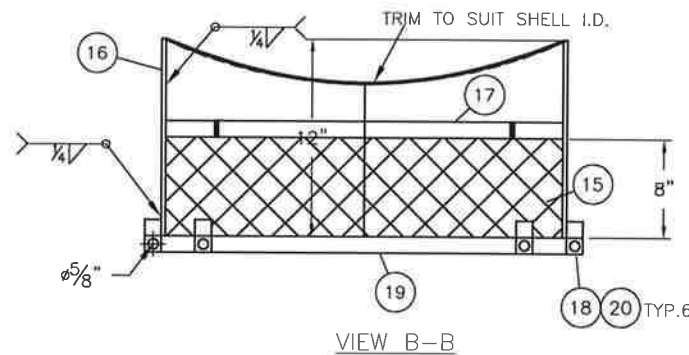
3 PHASE SEPARATOR
60"OD X 20'-0" S/S, 1/8" CA
1440 PSI @ -20/100°F
(NORMAL-SOUR)



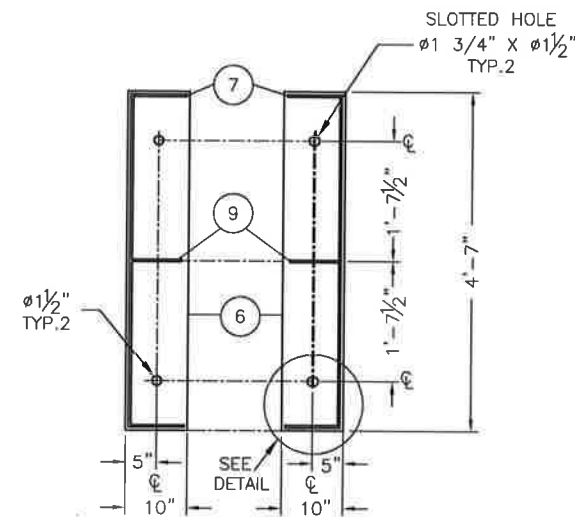
23 WEIR PLATE
SCALE: 3/8" = 1'-0"



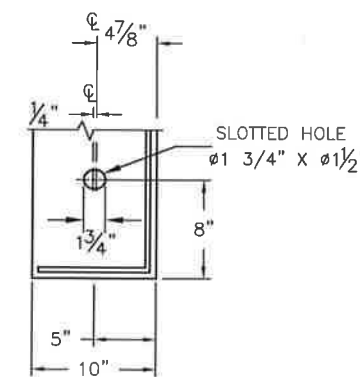
MISTPAD SUPPORT GRID TOP VIEW
SCALE: 1" = 1'-0"



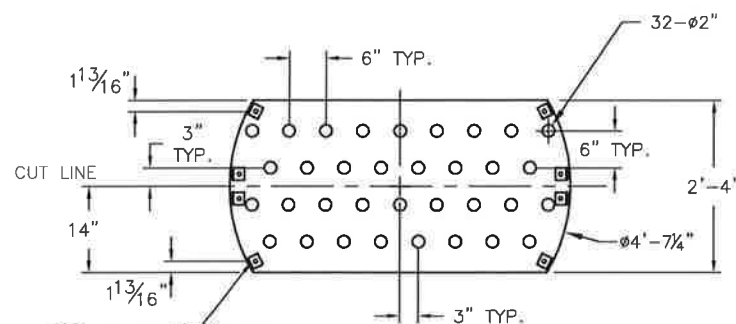
MISTPAD SUPPORT GRID TOP VIEW
SCALE: 1" = 1'-0"



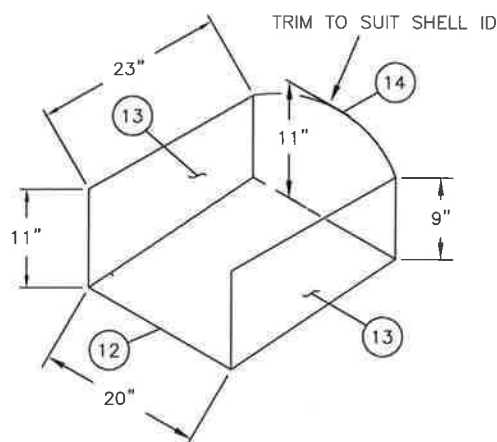
BASE PLATE DETAIL
SCALE: 3/8" = 1'-0"



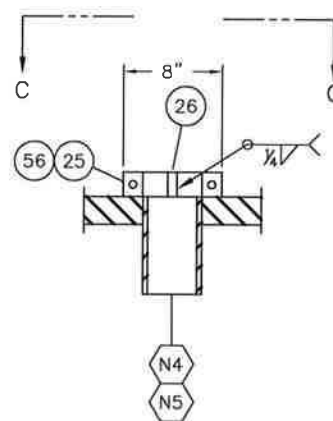
SLOT DETAIL
SCALE: 3/8" = 1'-0"



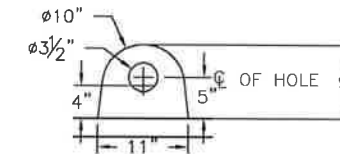
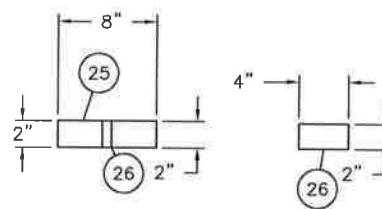
22 CLIPS: L2x2x1/4"
SA-36/44W
HOLE Ø5/8"



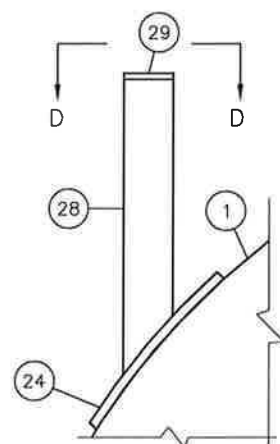
INLET DIVERTER
SCALE: 1/2" = 1'-0"



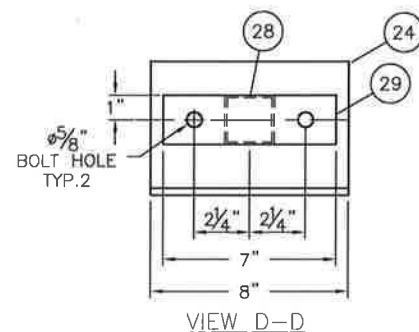
VORTEX BREAKER
SCALE: 1-1/2" = 1'-0"



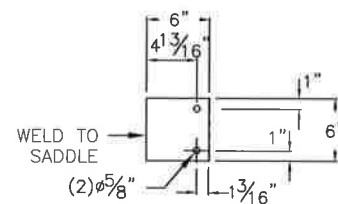
10 LIFTING LUG
SCALE: 1/2" = 1'-0"



SUPPORT STRUCTURE DETAIL
SCALE: 1-1/2" = 1'-0"



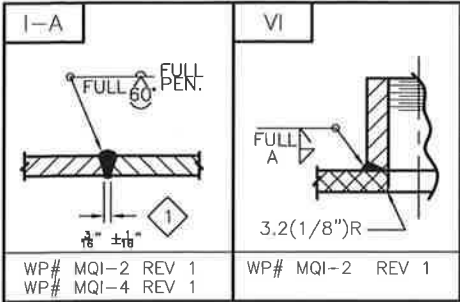
VIEW D-D



57 WATER BRIDLE SUPPORT PLATE DETAIL

WHEN DISCREPANCY OR DOUBT EXIST, PLEASE VERIFY AND CONFIRM.			
0	AS BUILT	02.19.19	
REV.	ISSUED FOR CONSTRUCTION	09.03.15	
	DESCRIPTION	DATE	
	BY: CHKD	CHKD	

END USER		CLIENT	
THIS DRAWING SHALL NOT BE REPRODUCED, COPIED, LOANED, DISPOSED OF DIRECTLY OR INDIRECTLY, NOR USED FOR ANY PURPOSE OTHER THAN THE SOLE INTENTION FOR WHICH IT IS FURNISHED WITHOUT PRIOR WRITTEN AUTHORIZATION OF MAR-QUINN INDUSTRIES LTD.		MQ STOCK	
1991-		DISTRIBUTION	QTY.
3 PHASE SEPARATOR		QC	1
60"OD X 20'-0" S/S, 1/8" CA		SHOP	
1440 PSI @ -20/100°F		PROCUREMENT	
(NORMAL-SOUR)		PROD. MANAGER	
		PROV. / P. ENG	
DRAWN		SCALE	DATE
1991		AS SHOWN	Mar-07-2019
		CLIENT	
		TOTAL	1

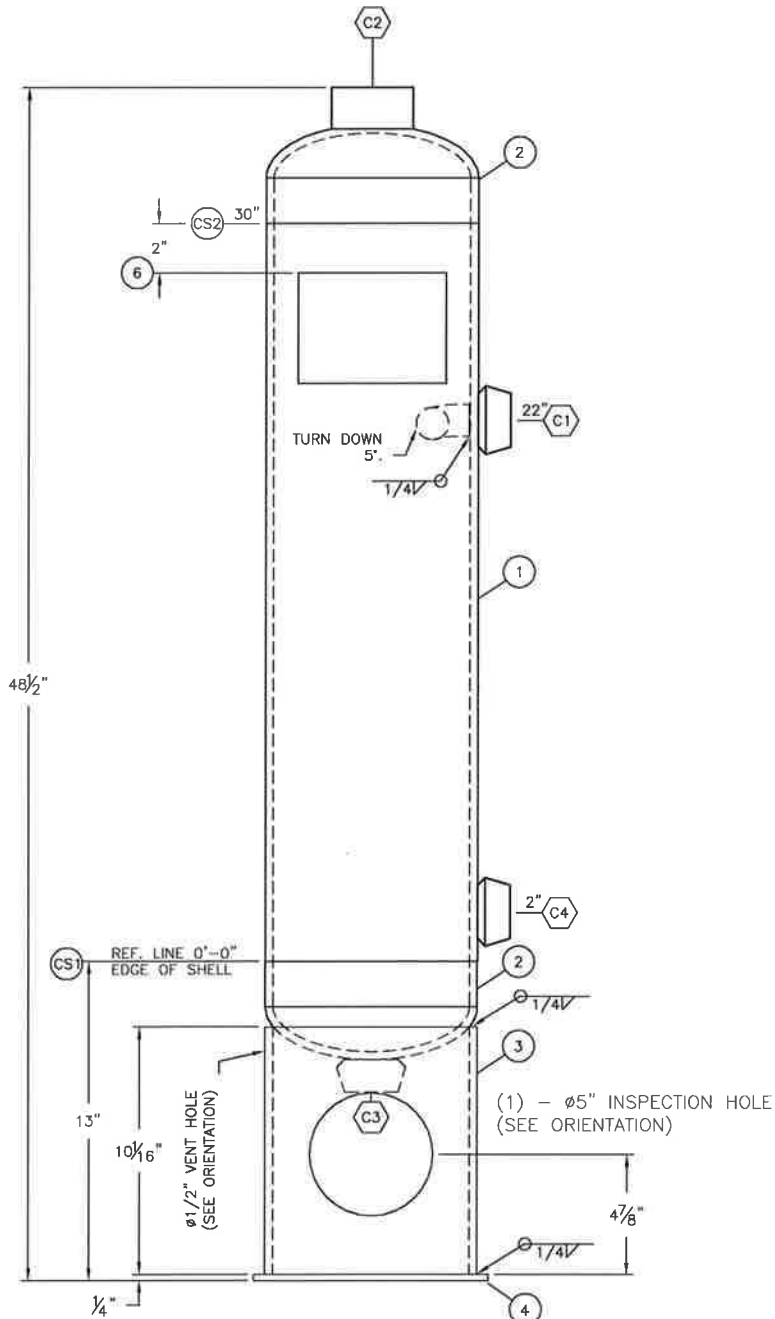


NOZZLE SCHEDULE														
NOZZLE NUMBER	QTY	SIZE	SCH.	RATING & FACING	SERVICE	PROJECTION		REPAD SIZE		WELD SIZE			WD#	ITEM
						INSIDE(h)	OUTSIDE	SIZE	THK.	A	B	C		
C1	1	1"	—	CL3000 TOL	INLET	—	—	—	—	⅝"	—	—	VI	7,5
C2	1	2"	—	CL3000 HC	OUTLET/INSPECTION	—	—	—	—	⅝"	—	—	VI	8
C3	1	1"	—	CL3000 TOL	DRAIN	—	—	—	—	⅝"	—	—	VI	7
C4	1	1"	—	CL3000 TOL	INSPECTION	—	—	—	—	⅝"	—	—	VI	7

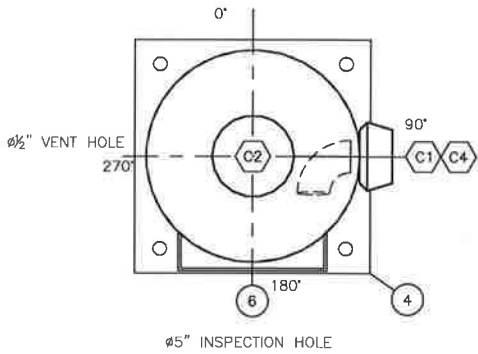
*ALL CIRC SEAMS TO BE WELDED PER WELD DETAIL 1-A

BILL OF MATERIALS		
ITEM	QTY	DESCRIPTION
1	1	SHELL, 8NPS SCH 40 PIPE x 30" LG, SA-106B
2	2	HEAD, 8NPS SCH 40 WELD CAPS, SA-234-WPB
3	1	SKIRT, 8NPS PIPE SCH 40, 10 1/8" LG, SA-106B
4	1	BASEPLATE, 9 1/2" X 9 1/2" X 1/4" THK. PLATE, SA-36/44W
5	1	INLET DIVERTER, 1" LR 90° SCH 40 ELBOW, SA-234-WPB
6	1	NAMEPLATE C/W 1/8" PLATE BRACKET, 304SS/SA-36/44W
7	3	TOL, 1 NPT CL3000 TOL, SA-105N
8	1	HALF COUPLING, 2 NPT CL3000 HALF COUPLING, SA-105N

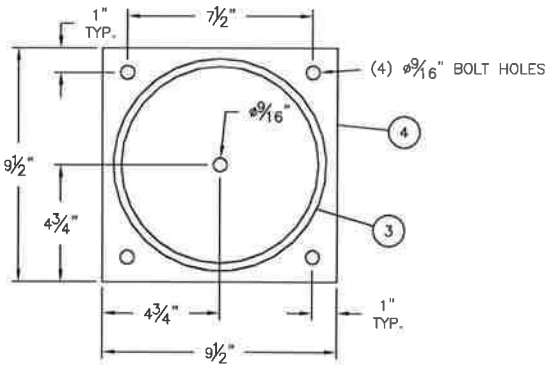
NOTE:
WHEN USING HALF COUPLING CL3000, CHECK INSIDE DIAMETER WITH RESPECT TO FLOAT OUTSIDE DIAMETER TO AVOID GRINDING. HALF COUPLING OR FULL COUPLING MAY HAVE SMALLER INSIDE DIAMETER.



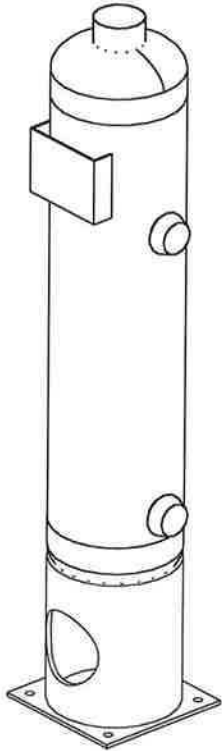
ELEVATION VIEW
SCALE: 1 1/2" = 1'-0"



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



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



SE ISO VIEW
SCALE: NTS

- NOTES:
- IMPACT TESTING EXEMPT AS PER UG-20(f), 1 THROUGH 5
 - EXTERNAL LOADING IS NOT APPLICABLE (REF. UG-22)
 - FABRICATION TOLERANCES SHALL BE IN ACCORDANCE WITH QCP SECTION 10-4
 - NOZZLE HOLES IN SHELL FOR 2" NPS SHALL BE DRILLED 2" ID
 - ATTACHMENTS WITH NO WELD DETAIL OR SYMBOL SHALL BE ATTACHED BE A 1/4" FILLET WELD USING WPS MQI-1.
 - EXTERIOR OR INTERIOR CORNERS OR EDGES OF OPENINGS WITHOUT A RADIUS VALUE SHALL BE CHAMFERED TO A 1/8" MINIMUM OR ROUNDED TO A 1/8" MINIMUM RADIUS.

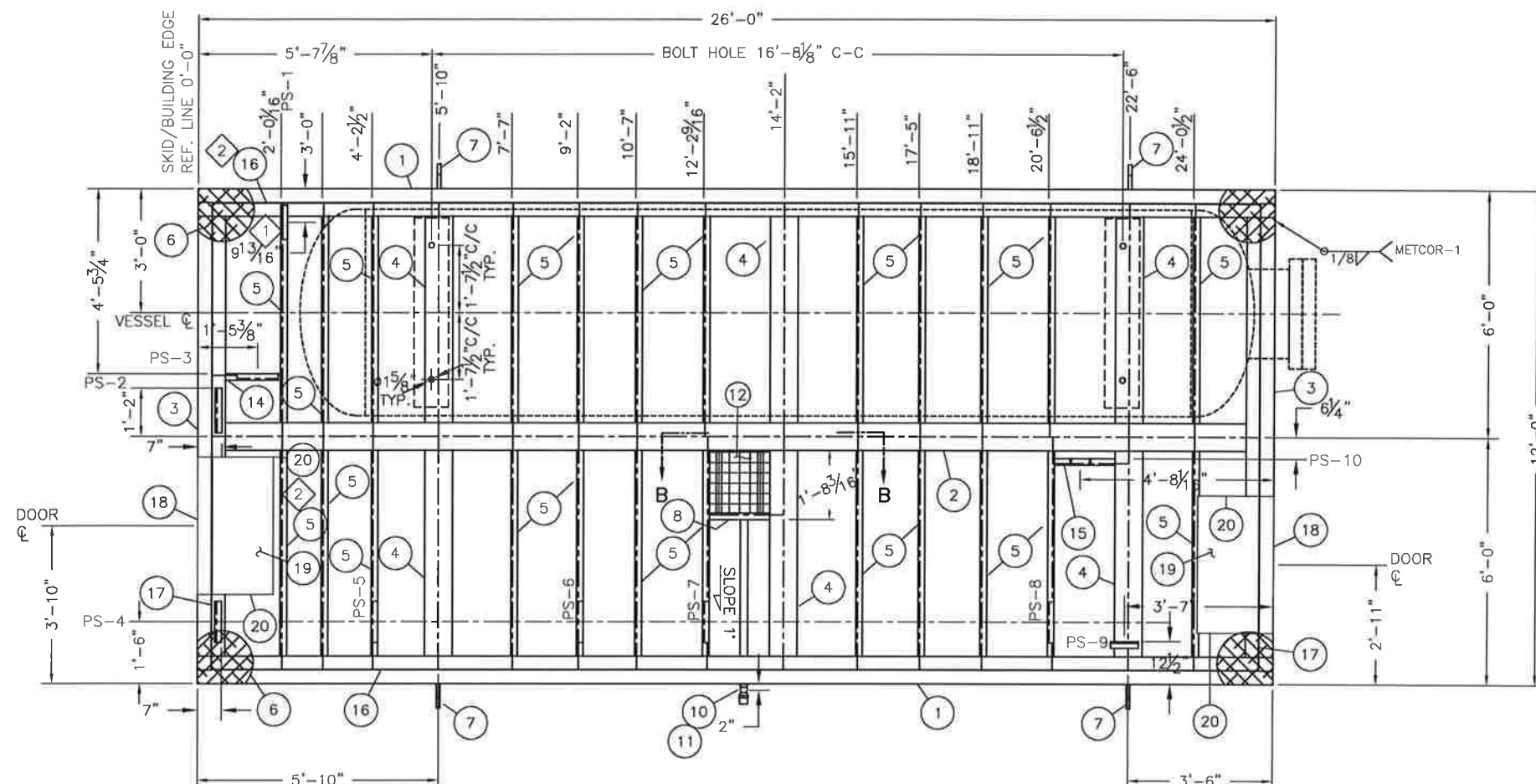
VESSEL DESIGN DATA			
ASME UM W RT1 HT		DESIGNED AND FABRICATED TO ASME CODE SECTION VIII DIV 1 - 2017 EDITION	
DESIGN PRESSURE:	300 PSI	EFFICIENCY:	1.0 PER UW-12(d)
DESIGN TEMPERATURE:	200°F	VOLUME:	1.04 CU. FT.
CORROSION ALLOWANCE:	1/8"	OVERALL LENGTH:	48 1/2"
M.D.M.T.:	-20°F @ 300 PSI	WEIGHT (EMPTY):	174 LBS.
HYDROSTATIC TEST:	390 PSIG	WEIGHT (FULL):	239 LBS.
RADIOGRAPHY:	FULL PER UW-11(a)	REFERENCE DWG.	419 REV A
P.W.H.T.:	YES, 1150°F 60 MIN	CRN NO.	V8587.213
ALL BOLT HOLES TO STRADDLE CENTERLINES UNLESS OTHERWISE NOTED			
END USER			
PROJECT MANAGER		CLIENT	
H. MARTIN		MQI STOCK	
CHKD BY		DISTRIBUTION	
H. LAZ		QC	
OWN BY		SHOP	
H. LAZ		PROCUREMENT	
DRAWN BY		PROD. MANAGER	
H. LAZ		PROV. / P. ENG	
DATE		CLIENT	
02.19.19		TOTAL	
08.14.18		1	
1991			

DRAWINGS		
AS BUILT	ISSUED FOR CONSTRUCTION	BY: I CHKD I CHKD
0	DESCRIPTION	
REV.		

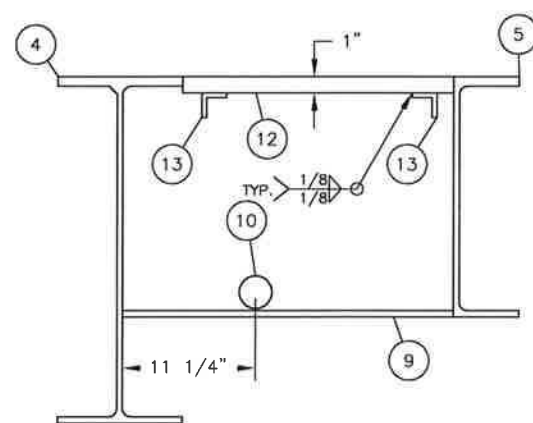
02.19.19	DATE
08.14.18	
1991	

AS SHOWN	SCALE
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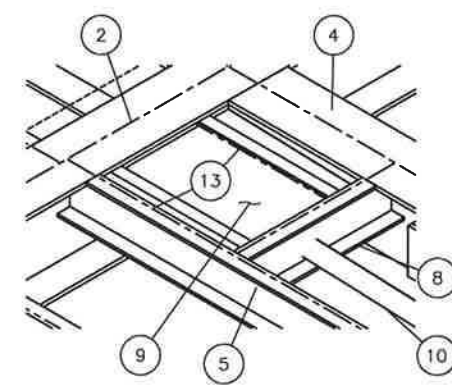
Mar-07-2019	DATE
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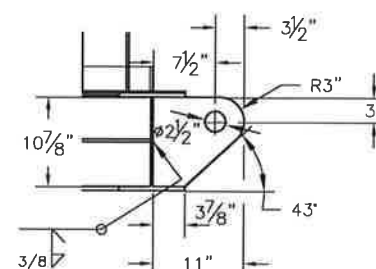
PLAN VIEW
SCALE: 1/4" = 1'



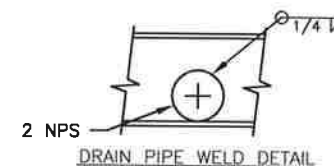
VIEW B-B
SCALE: N.T.S.



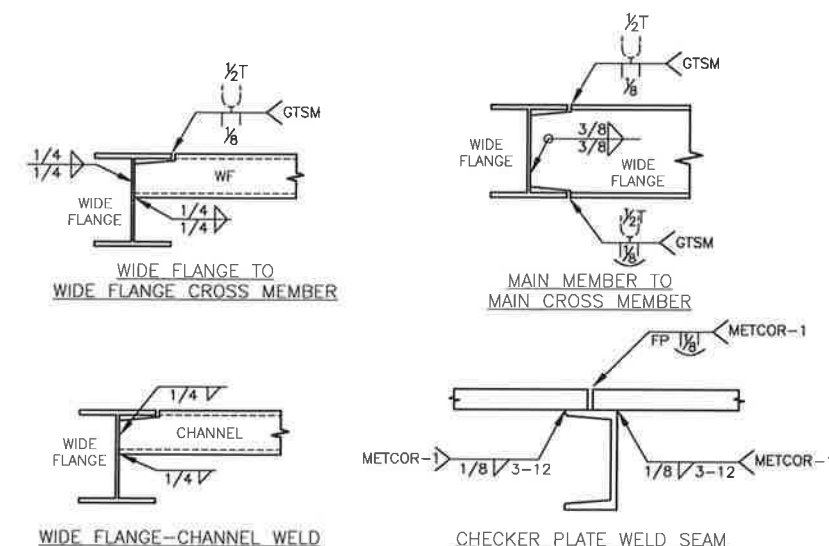
ORIENTATION VIEW FOR DRAIN PAN
SCALE: N.T.S.



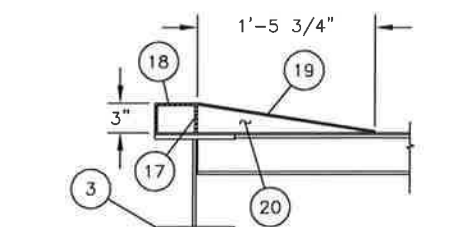
LIFTING LUG DETAIL
SCALE: 1/2" = 1'



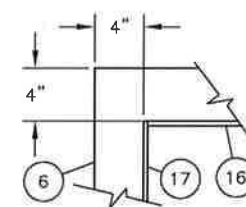
2 NPS
DRAIN PIPE WELD DETAIL



TYPICAL WELD CONNECTIONS



TYPICAL RAMP DETAIL SECTION VIEW
SCALE: N.T.S.



TYPICAL DRIP LIP DETAIL VIEW
SCALE: N.T.S.

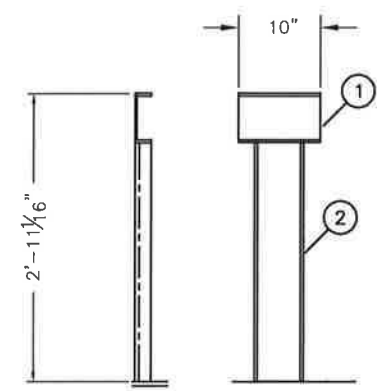
BILL OF MATERIALS			
ITEM	QTY	DESCRIPTION	PRCH
1	2	MAIN MEMBER, WF12X40 X 26'-0" LG., 50W	
2	1	MAIN MEMBER, WF12X40 X 25'-3 11/16" LG., 50W	
3	2	END MEMBER, WF12X40 X 11'-3 11/16" LG., 50W	
4	6	CROSS MEMBER, WF12X40 X 5'-7 11/16" LG., 50W	
5	24	CHANNEL, C6 X 8.2, 5'-7 11/16" LG., 44W	
6	1	CHECKER PLATE, 26' LG. X 12' W. X 3/16", A786	
7	4	LIFT LUG, FB-1" THK, 11" X 10 7/8"-USE FB12, 44W	
8	1	DRAIN PAN WALL, C6 X 8.2, 21 5/16" LG., 44W	
9	1	DRAIN PAN BASE, PL-3/16, 22 1/8" LG. X 21 5/16" W(SHOP TO FIT), 44W	
10	1	DRAIN PIPE, 2 NPS SCH80 4'-2" LG. (TOE), SA-106B	
11	1	BALL VALVE, 2" 2000# NPT RP (SHIPPED LOOSE)	
12	1	GRATING, 18 1/4" LG. X 17 1/2" W. X 1" THK. (SHOP TO FIT), 44W	
13	2	GRATING SUPPORT, L1 1/2" X 1 1/2" X 3/16", 22 1/8" LG. 44W	
14	1	CHANNEL, C6 X 8.2, 1'-7 15/16" LG., 44W	
15	1	CHANNEL, C6 X 8.2, 1'-9 3/8" LG., 44W	
16	2	DRIP LIP, FB3x1/4, 25'-3 1/2", 44W	
17	2	DRIP LIP, FB3x1/4, 11'-4", 44W	
18	2	DOOR SILL, L4"X3"X1/4", 3'-4" LG.	
19	2	RAMP, CHECKER PLATE, 3/16" THK, 3'-4" X 1'-6", SEE DETAIL	
20	4	RAMP, SIDEPLATE, 1/4" THK, 1'-5 3/4" L X 3", SEE DETAIL	

NOTES:

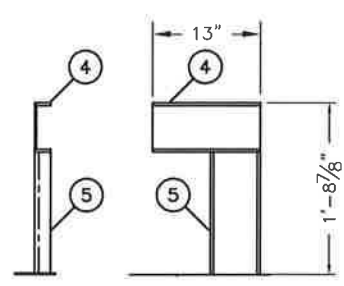
- BEAMS DESIGNED TO MEET CSA S16-APPENDIX D, TABLE D-1.
- WELDING FABRICATIONS PER CWB CERTIFICATION ON CSA 47.1 DIV 2 AND CSA W59-03.
- SKID DESIGNED FOR LIFTING AND SHIPMENT PURPOSES ONLY. PILE DESIGN AND LOCATIONS AS APPLICABLE BY OTHERS.
- ALTERNATE THE WELDING OF MEMBERS TO MINIMIZE DISTORTION. TOLERANCE $(1/4 + L(ft)/320) = 3/16"$
- ATTACHMENT WITH NO WELD DETAIL OR SYMBOL SHALL BE WELDED 1/4" FILLET WELD.
- ALL ATTACHEMENT WELD SHALL BE PER CWB WPS# SP-1 OR METCOR-1.
- TOP OF CHECKER PLATE REF. ELEV. 0'-0"
- CHECKER PLATE SHALL BE 3/16" THICK, PLATES WHICH WILL MEET ON STRUCTURAL MEMBERS TO BE 100% SEAL WELDED ON TOP AND STITCH WELDED @ 3"-12" TO STRUCTURAL MEMBER ON BOTTOM.
- SKID SURFACE PREPARATION TO BE PER SSPC-SP6
- SKID TO BE PAINTED AS FOLLOWS:
ONE (1) COAT PRIMER, ONE (1) COAT WARM GRAY ENAMEL
- SKID SHALL BE LIFTED ONLY WHEN VESSEL IS EMPTY AT LIFTING LUG LOCATION ONLY.
- DRIP LIP CONTAINMENT SHALL BE LEAK TESTED.
- MPI LIFTING LUGS.
- SKID ESTIMATED WEIGHT = 9,655 LBS

WHEN DISCREPANCY OR DOUBT EXIST, PLEASE VERIFY AND CONFIRM.			
REV.	DESCRIPTION	BY	CHKD
0	AS BUILT		
0	ISSUED FOR CONSTRUCTION		
02.19.19	DATE	09.22.16	DATE

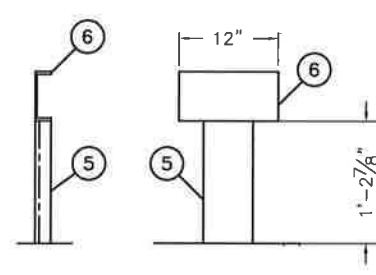
DRAWING		END USER	
1991		CLIENT	
12'-0" X 26'-0" SKID		MQ STOCK	
WF12X40 MAIN BEAM		DISTRIBUTION	
60" OD X 20'-0" s/s HORIZONTAL		QTY.	
THREE PHASE SEPARATOR PACKAGE		1	
SCALE		DATE	
AS SHOWN		Mar-07-2019	
SHT 1 OF 2		TOTAL	
		1	



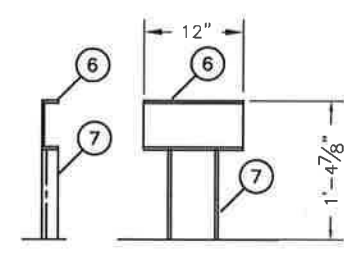
PS-1
SCALE: 1/2"=1'-0"
(WELD DIRECTLY ON CHANNEL)



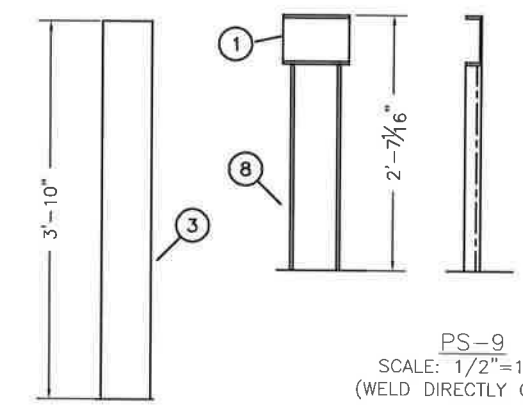
PS-2
SCALE: 1/2"=1'-0"
(WELD DIRECTLY ON WF)



PS-3
SCALE: 1/2"=1'-0"
(WELD DIRECTLY ON CHANNEL)

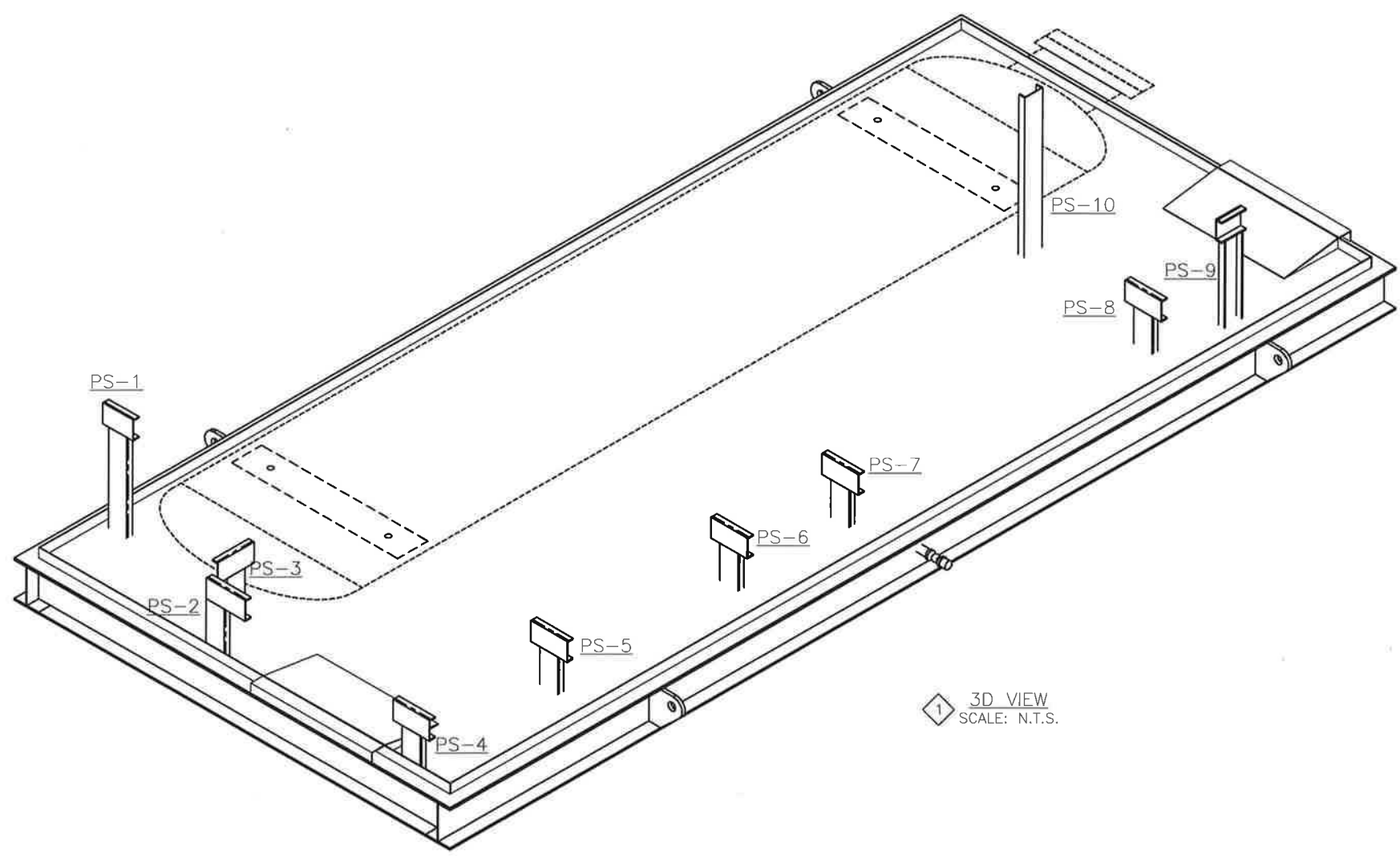


PS-4/5/6/7/8
SCALE: 1/2"=1'-0"
(WELD DIRECTLY ON WF/CHANNEL)



PS-9
SCALE: 1/2"=1'-0"
(WELD DIRECTLY ON WF)

PS-10
SCALE: 1/2"=1'-0"
(SITS ON CHANNEL)



1 3D VIEW
SCALE: N.T.S.

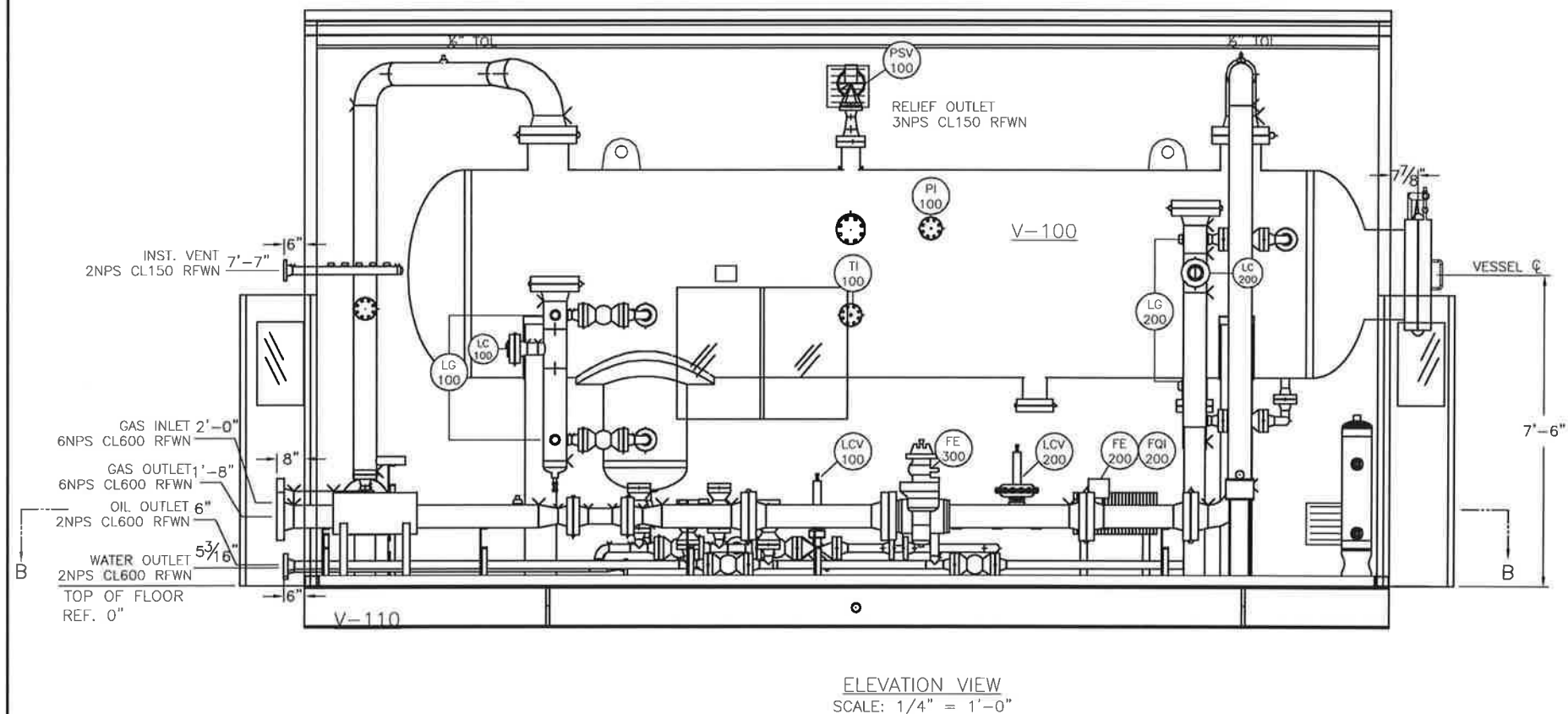
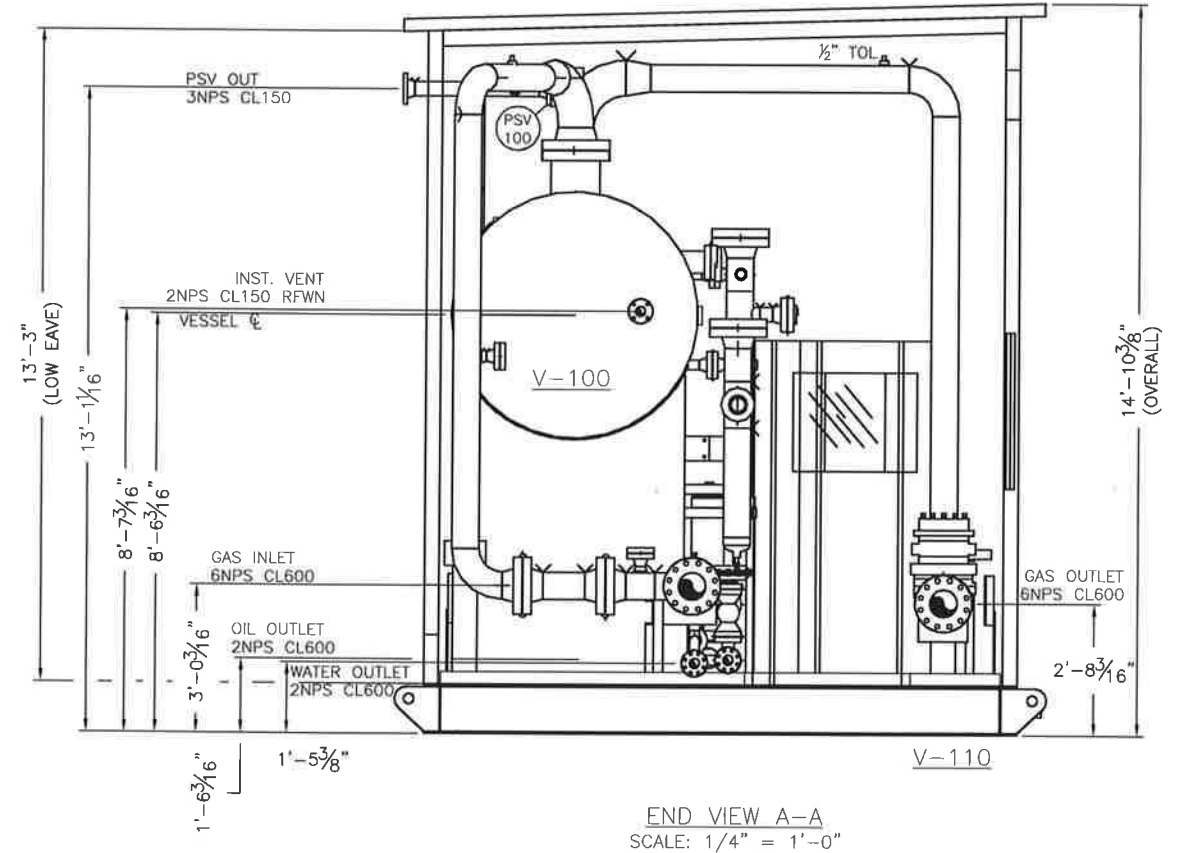
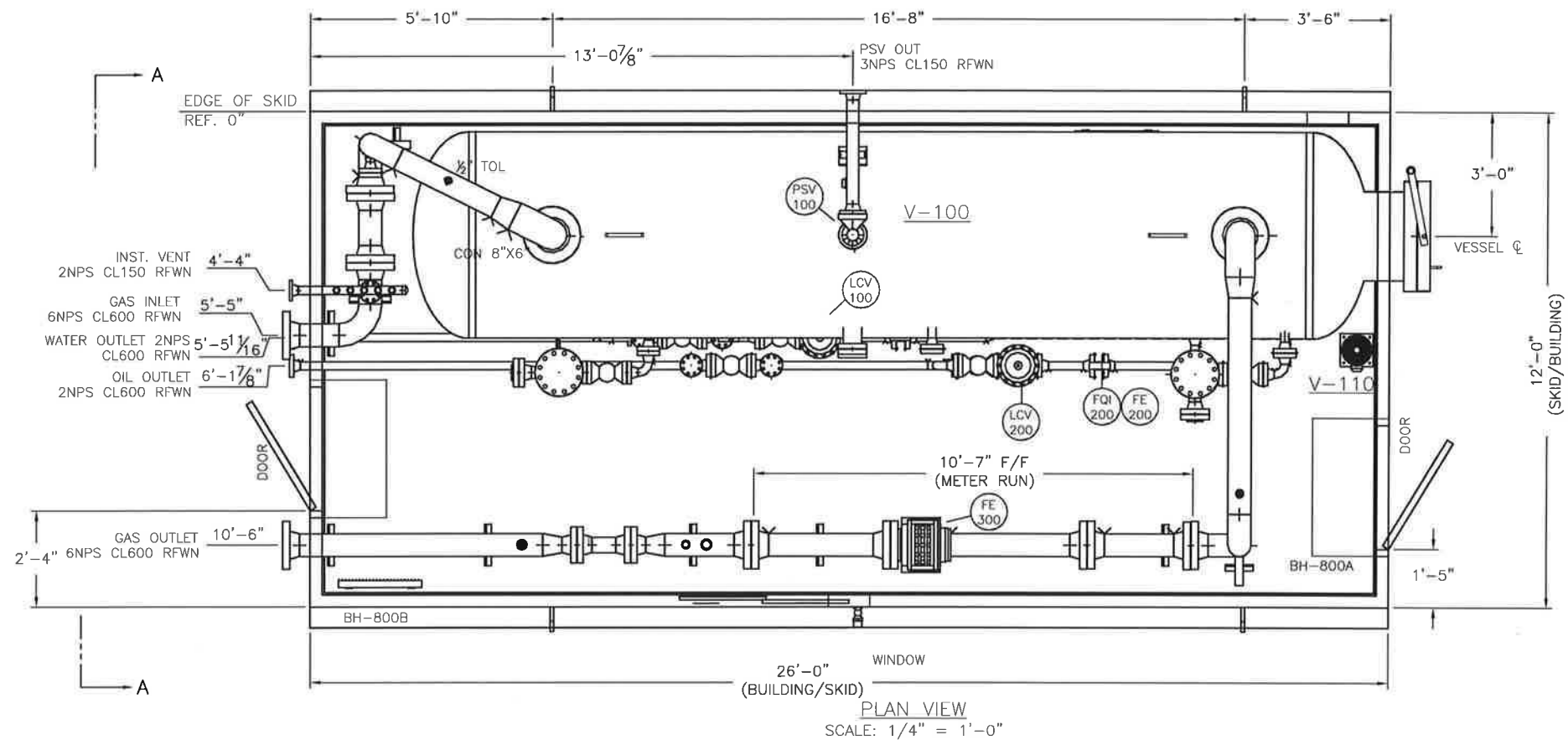
BILL OF MATERIAL				
MARK	QTY	LONG ANNOTATION	LENGTH	MATERIAL
1	2	HORIZONTAL SUPPORT C6X8.2	10"	44W
2	1	VERTICAL SUPPORT C6X8.2	2'-5 1/16"	44W
3	1	VERTICAL SUPPORT C6X8.2	3'-10"	44W
4	1	HORIZONTAL SUPPORT C6X8.2	1'-1"	44W
5	2	VERTICAL SUPPORT C6X8.2	1'-2 7/8"	44W
6	6	HORIZONTAL SUPPORT C6X8.2	1'-0"	44W
7	5	VERTICAL SUPPORT C6X8.2	10 7/8"	44W
8	1	VERTICAL SUPPORT C6X8.2	2'-1 1/16"	44W

NOTE:
1. SHOP TO SUIT PIPE SUPPORTS FOR WATER/OIL LINE. (MQ. STANDARD). WELD ON CHECKER PLATE.

WHEN DISCREPANCY OR DOUBT EXIST, PLEASE VERIFY AND CONFIRM.				
REV.	DESCRIPTION	BY	CHKD	DATE
0	AS BUILT			02.19.19
0	ISSUED FOR CONSTRUCTION			09.22.16

1991-10-10		END USER	
1991-10-10		CLIENT	
1991-10-10		MQ STOCK	
1991-10-10		DISTRIBUTION	QTY.
1991-10-10		QC	1
1991-10-10		SHOP	
1991-10-10		PROCUREMENT	
1991-10-10		PROD. MANAGER	
1991-10-10		PROV. / P. ENG	
1991-10-10		CLIENT	
1991-10-10		TOTAL	1

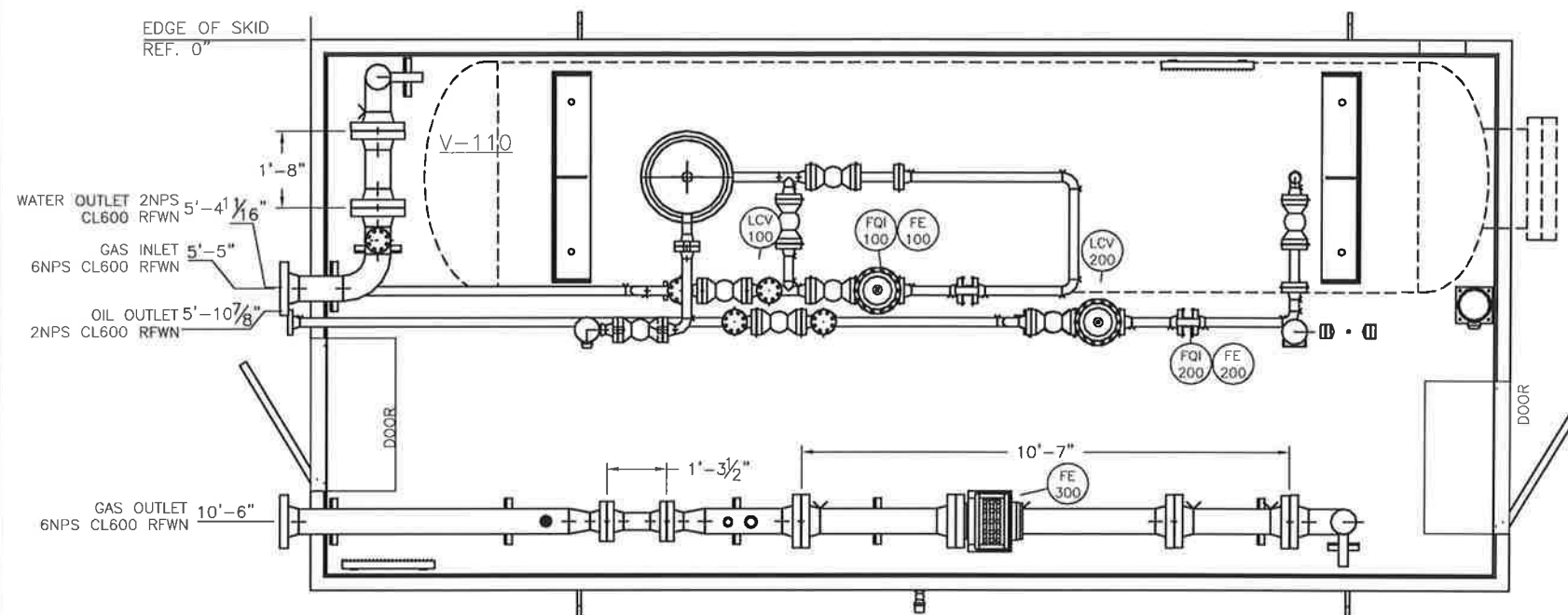
DRAWING	SCALE	DATE
1991-10-10	AS SHOWN	Mar-07-2019
SHT 2 OF 2		



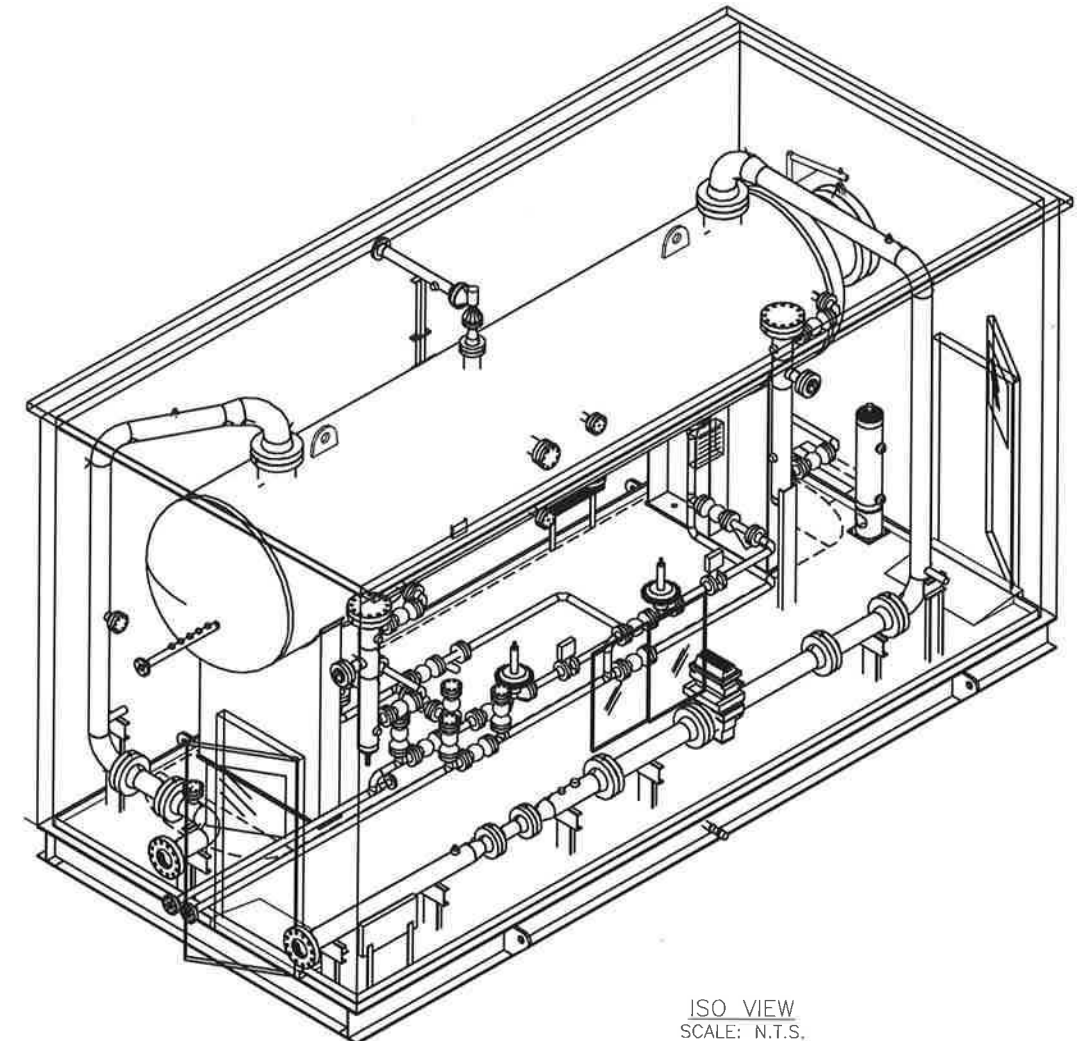
- NOTES:**
1. PIPING DESIGNED AND FABRICATED PER ASME B31.3 2016 EDITION.
 2. WELDED PIPING: (WELDED PIPING CORROSION ALLOWANCE 1/8".)
2NPS CL600 SCH 160,
3NPS CL600 SCH 80,
6NPS CL600 SCH 80,
 3. THREADED PIPING: (THREADED PIPING CORROSION ALLOWANCE 1/8".)
1" & UNDER TO BE SCH. XXS PIPE. FITTINGS : CL6000
 4. PIPE: SA-106-B, FLANGE: SA-105N, FITTINGS: SA-234-WPB
 5. RADIOGRAPHY FOR WELDED PIPING SHALL BE 100% AS PER ASME B31.3 CODE.
 6. PIPING STRESS RELIEVED @ 1150°F FOR 60 MINUTES AS PER ASME B31.3 CODE.
 7. STUDS: A-193-B7M, NUTS: A-194 2HM, GASKETS: 316SS FLEXITALLIC.
 8. PNEUMATIC INSTRUMENT TUBING IS 316SS.
 9. INSTRUMENT FITTINGS ARE SWAGelok 316SS.
 10. SKID SURFACE PREPARATION TO BE PER SSPC-SP6
 11. SKID, PIPING AND VESSEL TO BE PAINTED AS FOLLOWS:
ONE COAT PRIMER, ONE COAT WARM GRAY ENAMEL
 12. TOTAL ESTIMATED SHIPPING WEIGHT = 70,000 LBS

WHEN DISCREPANCY OR DOUBT EXIST, PLEASE VERIFY AND CONFIRM.				
REV.	DESCRIPTION	BY	CHKD	DATE
0	AS BUILT			12.19.19
1	ISSUED FOR CONSTRUCTION			08.13.18

DRAWING NO.		SCALE		DATE	
1991-15-G1-1 SHT 1 OF 2		AS SHOWN		Mar-07-2019	
END USER		CLIENT		MQ STOCK	
1991-		DISTRIBUTION		QTY.	
GENERAL PIPING ARRANGEMENT 60"OD X 20'-0" S/S HORIZONTAL SEPARATOR PACKAGE		QC		1	
		SHOP			
		PROCUREMENT			
		PROD. MANAGER			
		PROV. / P. ENG			
		CLIENT			
		TOTAL		1	



VIEW B-B
SCALE: 1/4" = 1'-0"



ISO VIEW
SCALE: N.T.S.

WHEN DISCREPANCY OR DOUBT EXIST, PLEASE VERIFY AND CONFIRM.					
REV.	DESCRIPTION	BY	CHKD	CHKD	DATE
0	ISSUED FOR CONSTRUCTION				
	AS BUILT				

1991-15-G1-1		END USER	
		CLIENT	
GENERAL PIPING ARRANGEMENT 60"OD X 20'-0" S/S HORIZONTAL SEPARATOR PACKAGE		MQ STOCK	
		DISTRIBUTION	QTY.
MAR-QUINN	QC		1
	SHOP		3
	PROCUREMENT		1
	PROD. MANAGER		
		PROV. / P. ENG	
		CLIENT	
		TOTAL	5

DRAWN
1991

SCALE

DATE
Mar-07-2019