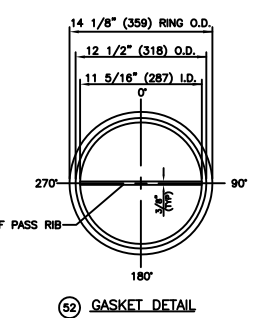
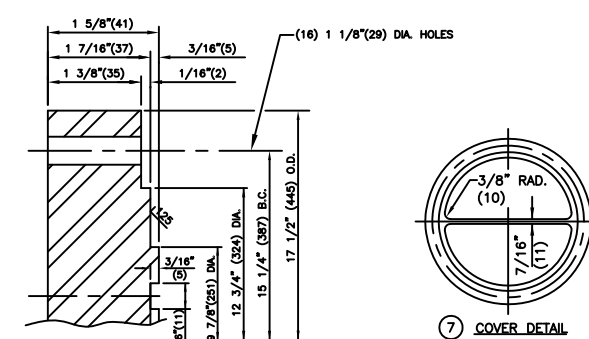
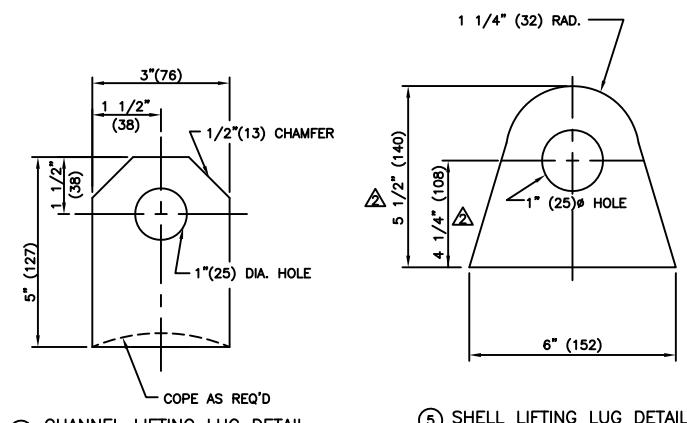
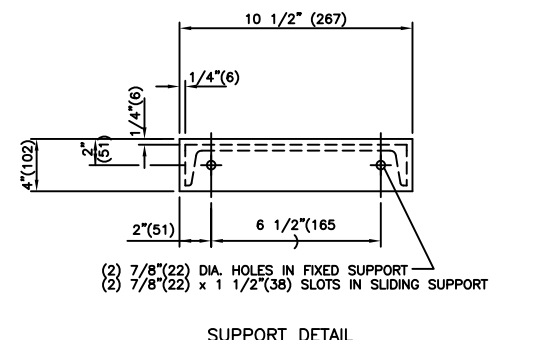
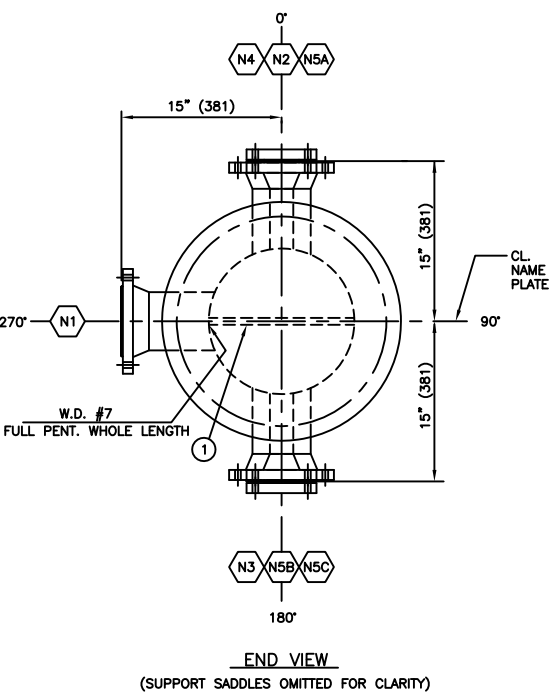
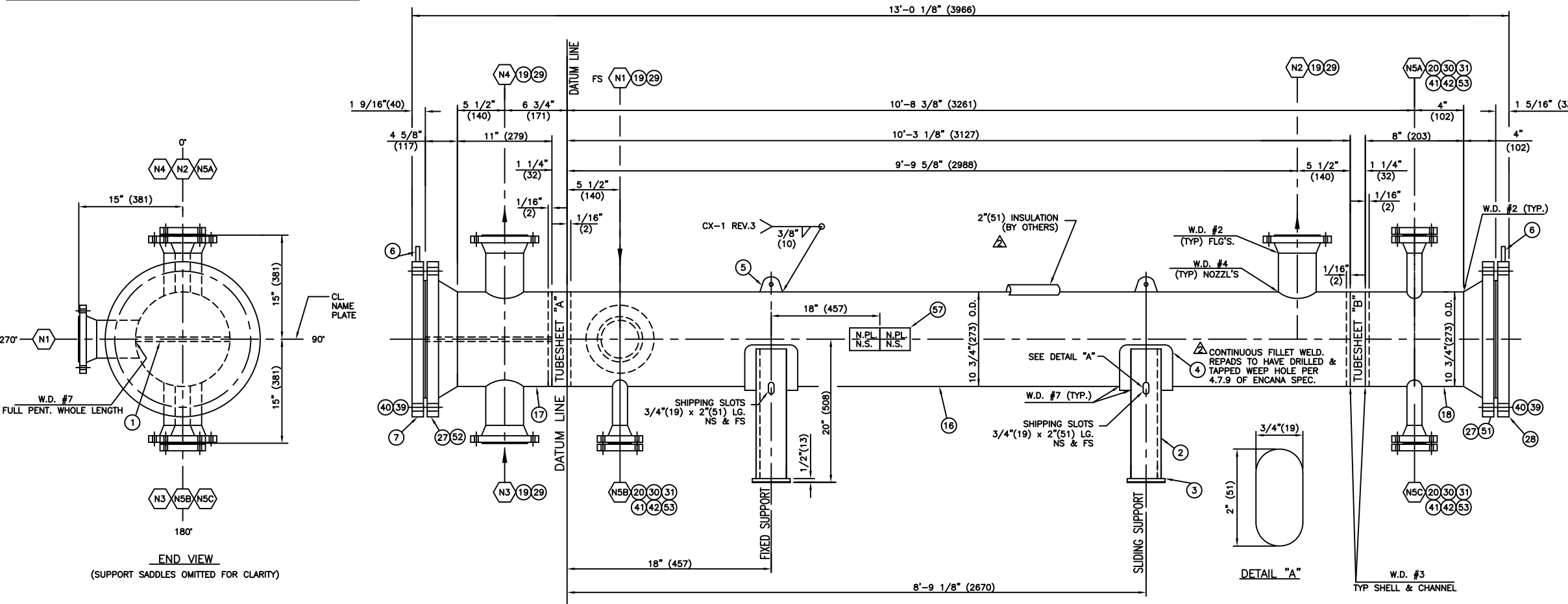


METRIC DIMENSIONS ARE IN BRACKETS



CONSTRUCTION / GENERAL NOTES


- GRIND FLUSH NOZZLES N1, ALL OTHER NOZZLES 1/4" PROJ. MAX.
- EXTERNAL DIMENSIONS, NOZZLE, SUPPORT LOCATIONS AND FABRICATION TOLERANCES SEE TEMA 9TH EDITION 2007, SECTION 2, FIGURES F-1 AND F-2
- BOTH SIDES SOUR SERVICE. 100% XR/UT/MP/ SPL. CHEM. ON PLATE MATL. PER NACE MR-0175.
- ALL STRUCTURAL ATTACHMENTS TO HAVE 100% MPI BEFORE & AFTER PAINT.
- FOR NOZZLES WITH REPAIRS, REQUIREMENTS OF ENCANVA SPEC. ECA-VESL-S-01, PARA 8.1.8 SHALL APPLY
- ALL RT/UT/MT SHALL BE CARRIED OUT AFTER PAINT PER ENCANVA SPEC. ECA-VESL-S-01 PARA 8.1.4 TO 8.1.7
- TUBESHEETS AND CHANNEL SECTIONS TO BE WELDED TOGETHER PRIOR TO PAINT.
- PI & TI CONNECTIONS AS REQ'D BY TEMA "M" ARE TO BE LOCATED ON ADJACENT PIPING.

NO.	DATE	DESCRIPTION	BY	APPROVED		
1		PAINT: TBD				
2		GRIND FLUSH NOZZLES N1, ALL OTHER NOZZLES 1/4" PROJ. MAX.				
3		EXTERNAL DIMENSIONS, NOZZLE, SUPPORT LOCATIONS AND FABRICATION TOLERANCES SEE TEMA 9TH EDITION 2007, SECTION 2, FIGURES F-1 AND F-2				
4		BOTH SIDES SOUR SERVICE. 100% XR/UT/MP/ SPL. CHEM. ON PLATE MATL. PER NACE MR-0175.				
5		ALL STRUCTURAL ATTACHMENTS TO HAVE 100% MPI BEFORE & AFTER PAINT.				
6		FOR NOZZLES WITH REPAIRS, REQUIREMENTS OF ENCANVA SPEC. ECA-VESL-S-01, PARA 8.1.8 SHALL APPLY				
7		ALL RT/UT/MT SHALL BE CARRIED OUT AFTER PAINT PER ENCANVA SPEC. ECA-VESL-S-01 PARA 8.1.4 TO 8.1.7				
8		TUBESHEETS AND CHANNEL SECTIONS TO BE WELDED TOGETHER PRIOR TO PAINT.				
9		PI & TI CONNECTIONS AS REQ'D BY TEMA "M" ARE TO BE LOCATED ON ADJACENT PIPING.				
7	JG	T/S DESIGN PRESS. / TEMP.	2	YES	NOV.4/13	
6	JG	ITEM #4 MATL.	1	NO	MS	OCT.21/13
5	BH	PASS PLATE	1	NO	MS	OCT.18/13
4	JG	NOTE 9	1	NO	MS	AUG.9/13
3	JG	SHELLSIDE DP/DT, MARK-UPS	1	YES	MS	AUG.6/13
2	JG	CUST. MARK-UP DWGS	0	NO	MS	JULY 17/13
1	PZ	ISSUED FOR APPROVAL	0	NO	MS	JUNE 21/13
0	JG	ISSUED FOR APPROVAL	0	INITIAL ISSUE	MS	JUNE 7/13

NO.	DATE	DESCRIPTION	BY	APPROVED
1		WPS CX-3		
2		WPS CX-3		
3		WPS CX-3		
4		WPS CX-4		
5		WPS CX-4		
6		WPS CX-3		

REF.	QTY.	SIZE	CLASS RATING	TYPE	SERVICE	WELD SIZE A	WELD SIZE B	WELD DETAIL #	EXTERNAL PROJECT.	REPAID
N1	1	4"	150	RFWN	SHELL SIDE INLET	3/8"	---	2.4	9 5/8"	NO
N2	1	4"	150	RFWN	SHELL SIDE OUTLET	3/8"	---	2.4	9 5/8"	NO
N3	1	4"	150	RFWN	TUBE SIDE INLET	3/8"	---	2.4	9 5/8"	NO
N4	1	4"	150	RFWN	TUBE SIDE OUTLET	3/8"	---	2.4	9 5/8"	NO
NSA-C	3	2"	150	RFWN	VENT / DRAINS C/W BLIND	3/8"	---	2.4	9 5/8"	NO

DESIGN DATA		SHELL SIDE		TUBE SIDE	
DESIGN PRESSURE:	175 PSIG	1208	200 PSIG	1380 kPa	
DESIGN TEMPERATURE:	475°F	246°C	350°F	177°C	
MIN. DESIGN METAL TEMPERATURE:	-20°F	-29°C	-20°F	-29°C	
RADIOGRAPHY:	100% XR/UT/MP/ RT1		100% XR/UT/MP/ RT1		
STRESS RELIEVING:	1 HR @ 1150°F		1 HR @ 1150°F		
CORROSION ALLOWANCE:	0.125"	3.2 mm	0.125"	3.2 mm	
TEST PRESSURE: (1.3 x MAWP N&C)	371 PSIG	2558 kPa	371 PSIG	2558 kPa	
MAWP	177 PSIG @ 475°F	1208	200 PSIG @ 200°F	1380 kPa	

BILL OF MATERIAL				
ITEM	QTY.	DESCRIPTION	MATERIAL	P.O.#
PLATE / STRUCTURAL				
1	1	3/8" THK. PLATE x 10" x 15 3/4" LG. - PASS PLATE	SA-516-70N	
2	2	10" CHANNEL x 15.38 x 16 11/16" LG. - SUPPORTS	G-44W	
3	2	1/2" THK. PLATE x 4" x 10 1/2" LG. - BASE PLATES	G-44W	
4	2	10" - SCH. STD. (0.365") SMLS. PIPE x 6" LG. SPLIT IN HALF - SUPPORT WEAR PLATE	SA-333-6	
5	2	1/2" THK. PLATE x 4 1/2" x 6" LG. - SHELL LIFT LUGS	SA-516-70N	
6	2	1/2" THK. PLATE x 3" x 5" LG. - CHANNEL COVER LIFT LUGS	SA-516-70N	
7	1	1 5/8" THK. PLATE x 17 1/2" O.D. CHANNEL COVER	SA-516-70N	
8				
9				
10				
11				
12				
13				
14				
15				
PIPE / FITTINGS				
16	1	10" - SCH. STD. (0.365") SMLS. PIPE x 10'-3 1/8" LG. - SHELL	SA-333-6	
17	1	10" - SCH. STD. (0.365") SMLS. PIPE x 11" LG. - CHANNEL	SA-333-6	
18	1	10" - SCH. STD. (0.365") SMLS. PIPE x 8" LG. - CHANNEL	SA-333-6	
19	4	4" - SCH. XH (0.337") SMLS. PIPE x 8" LG. - N1, N2, N3, N4	SA-333-6	
20	3	2" - SCH. 160 (0.344") SMLS. PIPE x 8 1/8" LG. - NSA-C	SA-333-6	
21				
22				
23				
24				
FORGINGS				
25				
26				
ANSI FLANGES / CPLG'S				
27	2	10" - CLASS 300 RFWN FLG. (SCH STD BORE) - CHANNEL FLANGES	SA-105-N	
28	1	10" - CLASS 300 RF BLIND FLANGE - CHANNEL COVER	SA-105-N	
29	4	4" - CLASS 150 RFWN FLG. (SCH. XH BORE) - N1, N2, N3, N4	SA-105-N	
30	3	2" - CLASS 150 RFWN FLG. (SCH. 160 BORE) - NSA-C	SA-105-N	
31	3	2" - CLASS 150 RF BLIND FLANGE - NSA-C	SA-105-N	
32				
33				
34				
35				
36				
37				
38				
STUD BOLTS & NUTS				
39	32	1" DIA. x 6 1/4" LG STUD BOLTS	SA-193-B7M	
40	64	1" DIA. H. HEX NUTS	SA-194-2HM	
41	12	5/8" DIA. x 3 1/4" LG STUD BOLTS	SA-193-B7M	
42	24	5/8" DIA. H. HEX NUTS	SA-194-2HM	
43				
44				
45				
46				
47				
48				
49				
50				
GASKETS & MISC.				
51	2	10" - CLASS 300 RF "CG STYLE" FLEXITALLIC GASKETS	T-316S.S.	
52	2	10" - CLASS 300 RF "CG STYLE" FLEXITALLIC GASKETS C/W PASS RIB (SEE DETAIL)	T-316S.S.	
53	6	2" - CLASS 150 RF "CG STYLE" FLEXITALLIC GASKETS	T-316S.S.	
54				
55				
56				
NAME PLATES				
57	2	8" T-BAR STYLE NAME PLATE BRACKETS C/W S.S. NAMEPLATE PLATE	SA-516-70N	
QUANTITIES LISTED ARE FOR ONE UNIT, ONE UNIT REQUIRED				
SPECIAL CHEMISTRY				
SOUR SERVICE BOTH SIDES (PER ENCANVA SPEC. ECA-GEN-S-10 REV.2 SHALL APPLY)				
PRESSURE RETAINING PLATE UT (SA-578, LEVEL B) 3" GRID, VACUUM DEGASSED, SULFIDE SHAPE CONTROL FULLY KILLED, (NOT HIC TESTED)				
BHN ≤ 200. ALL PARENT MATERIAL: Cr + Mo + Cu + Ni ≤ 0.70				
C.E. = C + Mn/6 + (Cr + Mo + V)/5 + (Ni + Cu)/15 Nb + V + Ti ≤ 0.035				
PLATE: C.E. < 0.43, PHOSPHORUS ≤ 0.015%, SULPHUR ≤ 0.005%				
SA-333-6 & SA-105N: CARBON ≤ 0.23%, MANGANESE ≤ 1.35%, PHOSPHORUS < 0.025%, SULPHUR < 0.025%				
 CALHEX INDUSTRIES LTD. 9515 - 48th STREET S.E. CALGARY, ALBERTA T2C 2R1 5B1095-05-DR-70-002 Rev 7				
CUSTOMER: 5 BLUE PROCESS FOR DPH-FOCUS, ENCANVA CORP SEXSMITH PLANT			PROJECT: STABILIZER FEED / BOTTOMS EXCHANGER NEN 10 x 126 ITEM#: E-1144 P.O. #: P6803-5B1095-70 SEXSMITH PLANT	
ENGINEERING RECORDS			SCALE: N.T.S. DWG. NO.: 13-0823-S	
DRAWING BY: J.GREGORY DATE: JUNE 7/13			REV: 7	
CHECKED BY: D.KLADNIK DATE: JUNE 7/13				
APPROVED BY: M.SOJKA				