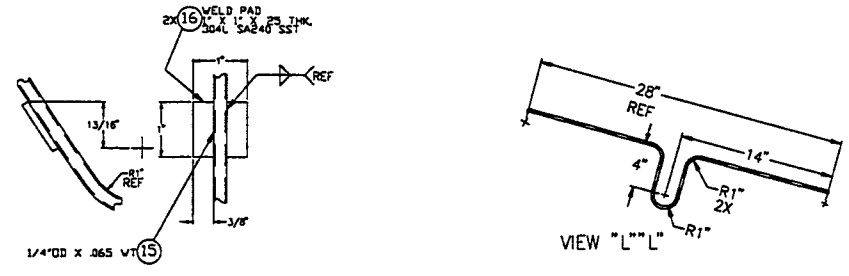
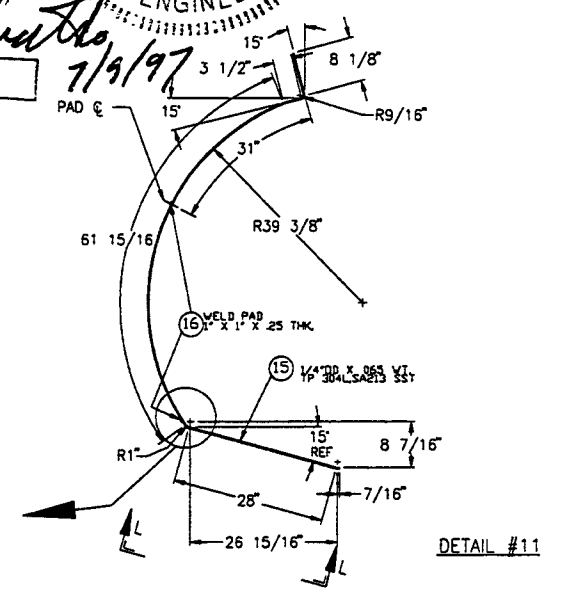
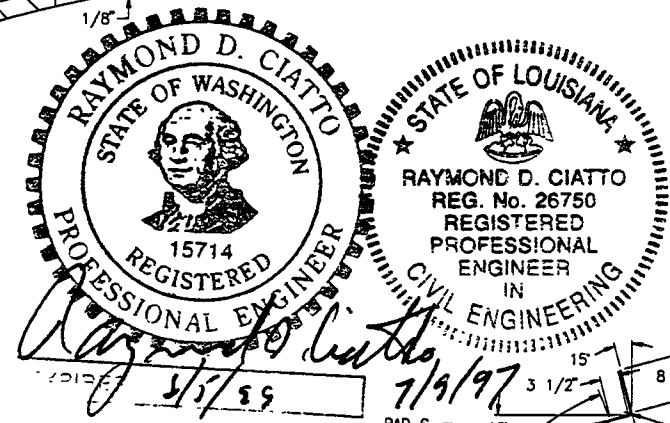
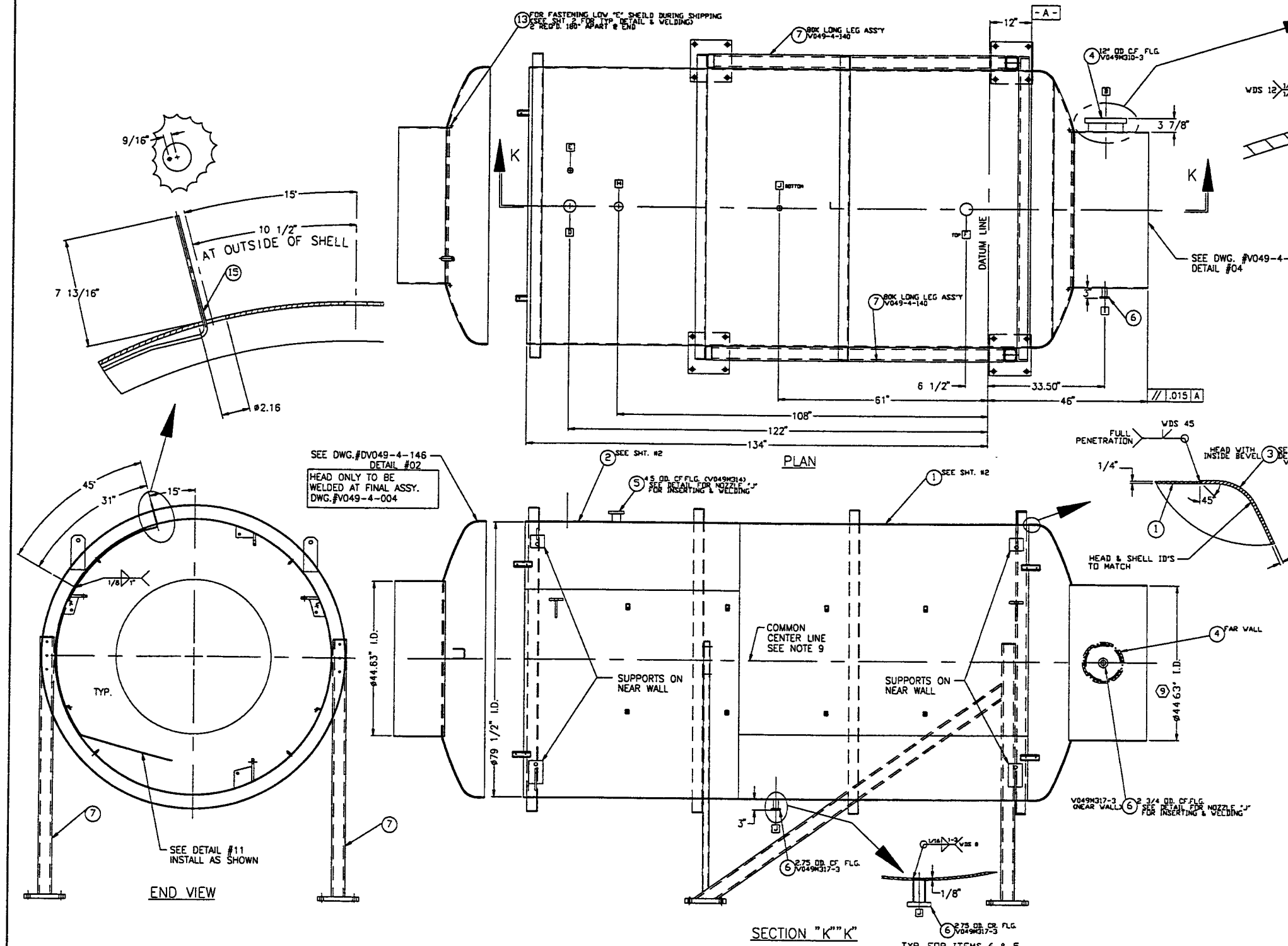


11. WDS NO'S. REFER TO WELD DATA SPEC. V049-2-084
 10. USE LEG ASSEMBLY FOR STIFFENER ALIGNMENT SPACING
 9. I.D.'S ARE TO BE ALIGNED ALONG THEIR COMMON CENTER LINE TO WITHIN ±0.6
 8. LEAK TEST & METHOD PER PSI SPEC. V049-2-014, BY PSI.
 7. CERTIFIED MANUFACTURER'S MATERIAL TEST REPORTS REQUIRED; AS NOTED
 6. FLANGE BOLT HOLES TO STRADDLE NATURAL CENTER LINES OF VESSEL. UNLESS NOTED, CONFLAT VENT SLOTS TO BE LOCATED TOP & BOTTOM.
 5. CLEAN PER SPEC. V049-2-015
 4. NOZZLES "B" TO BE CONTOURED TO INSIDE DIAMETER OF SHELL OR TO CURVATURE OF HEAD, UNLESS OTHERWISE NOTED.
 3. DO NOT USE CARBON STEEL BRUSHES OR BRUSHES CONTAMINATED WITH CARBON STEEL ON STAINLESS OR ALUMINUM MATERIAL. GRINDING TO INTERNAL VACUUM BOUNDARY SURFACES IS NOT ALLOWED.
 2. HEADS ARE ASME F&D.
 1. CHAMBER FABRICATION TO BE IN ACCORDANCE WITH SPEC. V049-2-096
- WEIGHTS: SHELL ASSY. = 5000 LBS.
SUPPORTS = 600 LBS.
TOTAL = 5600 LBS.



PROPRIETARY AND CONFIDENTIAL
THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION BELONGING TO PROCESS SYSTEMS INTERNATIONAL, INC. OR ITS AFFILIATED COMPANIES AND SHALL BE USED ONLY FOR THE PURPOSE FOR WHICH IT WAS SUPPLIED. IT SHALL NOT BE COPIED, REPRODUCED OR OTHERWISE USED, NOR SHALL SUCH INFORMATION BE FURNISHED IN WHOLE OR IN PART TO OTHERS EXCEPT IN ACCORDANCE WITH THE TERMS OF ANY AGREEMENT UNDER WHICH IT WAS SUPPLIED OR WITH THE PRIOR WRITTEN CONSENT OF PROCESS SYSTEMS INTERNATIONAL, INC. AND SHALL BE RETURNED UPON REQUEST.

SYMBOL	CHARACTERISTIC	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	REV	DESCRIPTION	ISSUE DESCRIPTION	CHKD	DRWN	DATE	DECN
[Symbol]	FLATNESS	FRACTIONAL ± .1 ANGULAR MAX ± 30° BEND 42°	3	REISSUED FOR FABRICATION AS NOTED	GS PEF DMW RDC REC	PV		1/4/97	0399
[Symbol]	CYLINDRICITY	TWO PLACE DECIMAL ± .02	2	REISSUED FOR FABRICATION	GS PEF DMW RDC REC	PV		12/9/96	0379
[Symbol]	PARALLELISM	BREAK CORNERS IN REMOVE ALL BURRS	1	REISSUED FOR FABRICATION	REB GS PEF DMW RDC REC	PV		11/15/96	0352
[Symbol]	PERPENDICULARITY	DO NOT SCALE THIS DRAWING	0	ISSUED FOR FABRICATION	REB GS PEF DMW RDC REC	JT		11/08/96	0326
[Symbol]	ANGULARITY	USED ON:							
[Symbol]	TRUE POSITION	NEXT ASSY: DVD49-4-004							
[Symbol]	CONCENTRICITY								

PROCESS SYSTEMS INTERNATIONAL, INC.
20 WALKUP DR. WESTBOROUGH, MASSACHUSETTS 01581 USA

80K PUMP WELDMENT, LONG -LEFT-

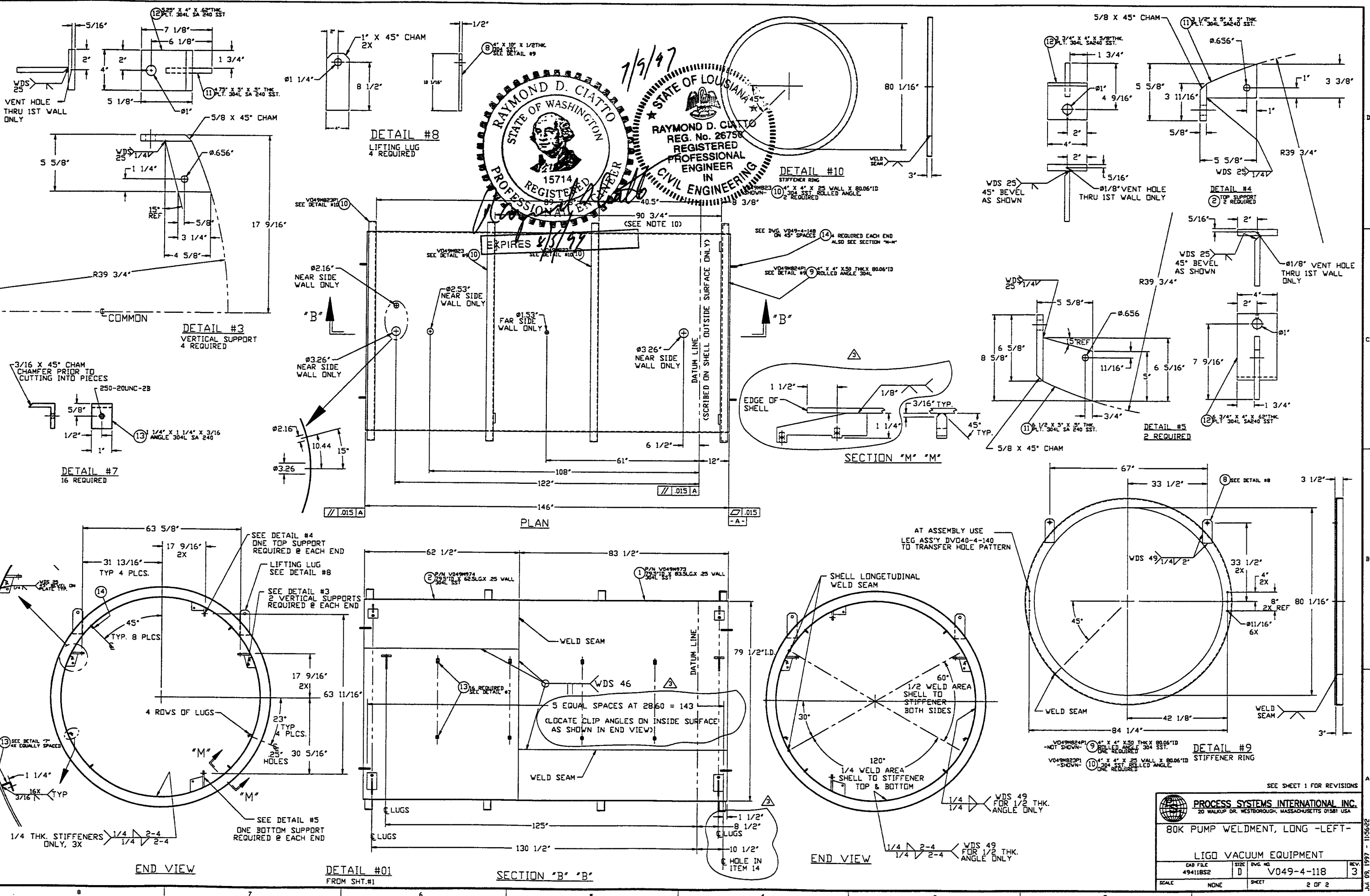
LIGO VACUUM EQUIPMENT

CAD FILE: 49411BS1 SIZE: D DWG. NO.: V049-4-118 REV: 3

SCALE: NONE SHEET: 1 OF 2

LIGO-D970420-03-V

31 DEC 1997 11:50:59



7/9/97
 STATE OF LOUISIANA
RAYMOND D. CIATTO
 REG. No. 26758
 REGISTERED
 PROFESSIONAL
 CIVIL ENGINEER
 IN
 MECHANICAL ENGINEERING
 LICENSE NO. 15714
 EXPIRES 4/30/99

PROCESS SYSTEMS INTERNATIONAL INC. 20 WALKUP DR. WESTBOROUGH, MASSACHUSETTS 01581 USA			
80K PUMP WELDMENT, LONG -LEFT- LIGO VACUUM EQUIPMENT			
CAD FILE 494118S2	SIZE D	DWG NO. V049-4-118	REV. 3
SCALE NONE		SHEET 2 OF 2	

SEE SHEET 1 FOR REVISIONS
 1/4 THK. STIFFENERS ONLY, 3X
 16X 3/16" TYP
 1 1/4"

END VIEW
 SECTION "B" "B"
 SECTION "M" "M"
 END VIEW
 PLAN
 DETAIL #01 FROM SHT.#1

SEE DETAIL #4
ONE TOP SUPPORT
REQUIRED @ EACH END
 LIFTING LUG
SEE DETAIL #8
 SEE DETAIL #3
2 VERTICAL SUPPORTS
REQUIRED @ EACH END
 SEE DETAIL #5
ONE BOTTOM SUPPORT
REQUIRED @ EACH END
 SEE DETAIL #7
16 REQUIRED
 SEE DETAIL #8
LIFTING LUG
SEE DETAIL #8
 SEE DETAIL #3
2 VERTICAL SUPPORTS
REQUIRED @ EACH END
 SEE DETAIL #5
ONE BOTTOM SUPPORT
REQUIRED @ EACH END

1/4" X 4" X 1/2" THK. SEE DETAIL #9
 3/16" X 45° CHAMFER PRIOR TO CUTTING INTO PIECES
 250-20UNC-28
 1 1/4" X 1 1/4" X 3/16" ANGLE 304L SA 240
 3/16" X 45° CHAMFER PRIOR TO CUTTING INTO PIECES
 250-20UNC-28
 1 1/2" X 1 1/4" X 3/16" ANGLE 304L SA 240
 1 1/2" X 45° CHAMFER PRIOR TO CUTTING INTO PIECES
 250-20UNC-28
 1 1/2" X 45° CHAMFER PRIOR TO CUTTING INTO PIECES
 250-20UNC-28
 1 1/2" X 45° CHAMFER PRIOR TO CUTTING INTO PIECES
 250-20UNC-28
 1 1/2" X 45° CHAMFER PRIOR TO CUTTING INTO PIECES
 250-20UNC-28
 1 1/2" X 45° CHAMFER PRIOR TO CUTTING INTO PIECES
 250-20UNC-28