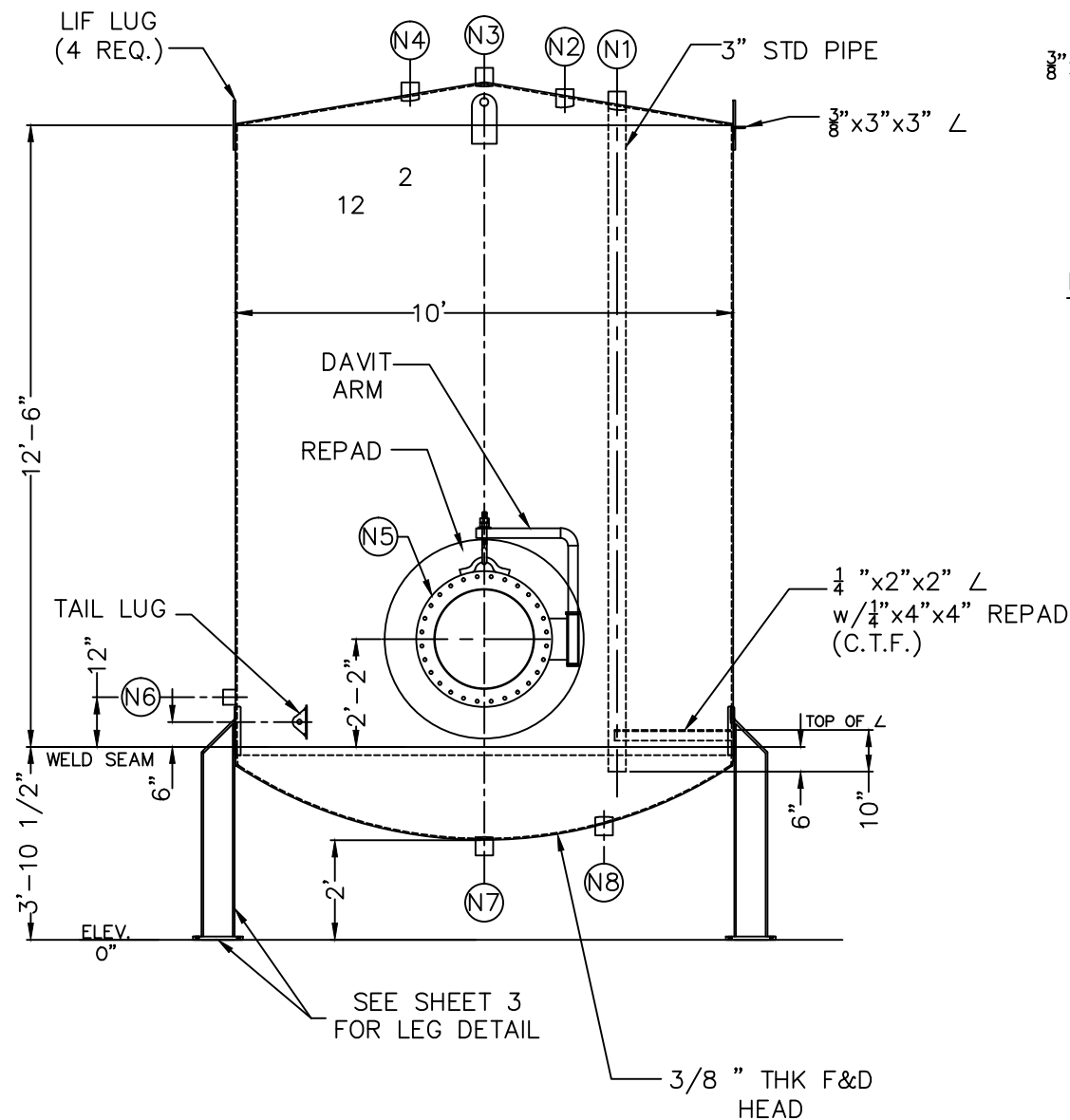
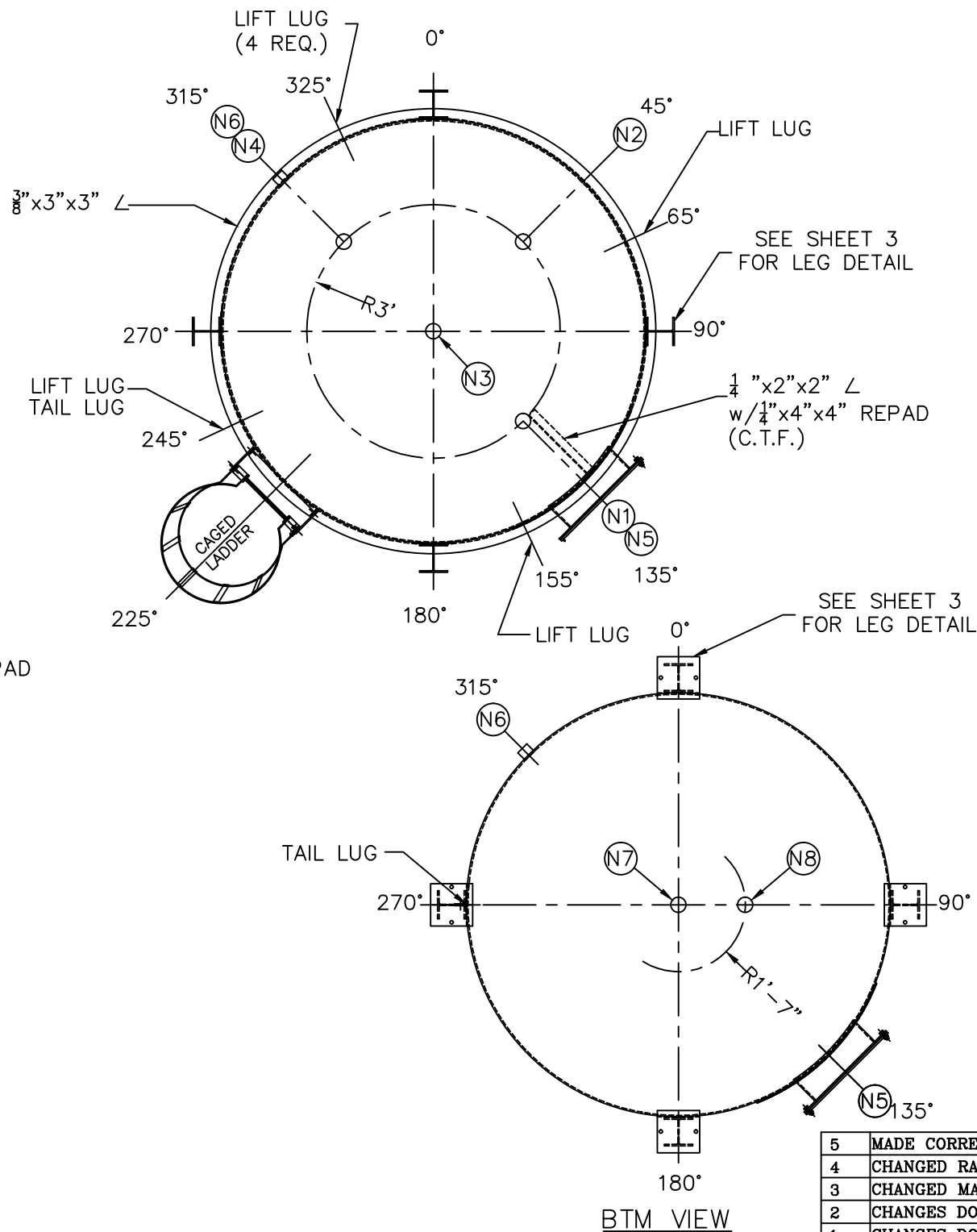


360° HANDRAIL  
SEE SHEET 4



ELEVATION VIEW



BTM VIEW

QTY: 2

GENERAL NOTES

- 1) ALL BOLT HOLES TO STRADDLE NORMAL TANK CENTERLINES UNLESS SHOWN OTHERWISE.
- 2) NOZZLE PROJECTIONS ARE FROM OUTSIDE OF TANK TO FACE OF FLANGE UNLESS SHOWN OTHERWISE.
- 3) TANK TO BE FREE FROM FOREIGN DEBRIS BEFORE SHIPMENT.
- 4) ALL DIMENSION'S ARE FROM BOTTOM OF TANK

DESIGN CRITERIA

CODE: API-620  
 FLUID: POLYURETHANE POLYOL  
 SPECIFIC GRAVITY: 1.14 MAX  
 DESIGN PRESSURE: +34 BARG (+5.0 PSIG)  
 DESIGN VACUUM: -10 BARG (-1.5 PSIG)  
 DESIGN TEMPERATURE: 5° C MIN  
50° C MAX  
 OPERATING PRESSURE: 1.0 PSIG  
 OPERATING VACUUM: -0.5 PSIG  
 OPERATING TEMPERATURE: 25°C  
 JOINT EFFICIENCY: 85%  
 RADIOGRAPHY: SPOT X-RAY  
 CORROSION ALLOWANCE: .030  
 TEST: HYDRO PER API

MATERIAL

ROOF/SHELL & BOTTOM: A-36  
 REINFORCEMENTS PADS: A-36  
 STRUCTURAL SUPPORT: A-36  
 PIPE: SA-105-B  
 FLANGES/BLINDS/COUPLINGS & PLUGS: SA-105  
 BOLTING: SA-193-B7 / SA-194-2H  
 SERVICE GASKETS: EDPM  
 ESTIMATED WEIGHT EMPTY: 9,000 LB  
 CAPACITY: 175 BBL  
7,343 GAL

SURFACE PREP: SSPC-SP----  
 INTERIOR PAINT  
 1st COAT: NONE

SURFACE PREP: SSPC-SP----  
 EXTERIOR PAINT  
 1st COAT: SHERWIN WILLIAMS INDUSTRIAL ENAMEL SAFETY BLUE ULTRA D B54T104 WITH TINT # 4086

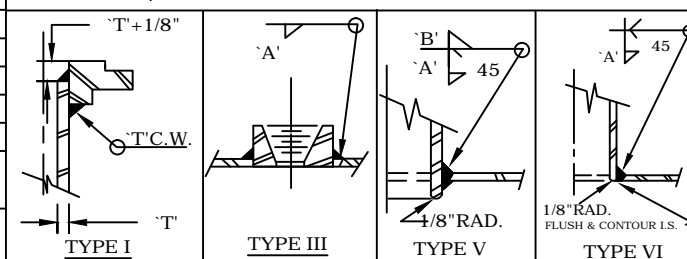
REV	DESCRIPTION	DATE
5	MADE CORRECTION TO LIFT LUG & TAILING LUG ORIENTATION	8/19/14
4	CHANGED RADIOGRAPHY TO SPOT X-RAY	8/6/14
3	CHANGED MANWAY TO A 24" 150# RFSO FLANGE	7/18/14
2	CHANGES DONE PER ATTACHEMENT SKMBT_C45414070117010	7/2/14
1	CHANGES DONE PER ATTACHEMENT SKMBT_C45414062718170	6/30/14
0	FOR APPROVAL	6/20/14

MARK	QTY	SIZE	RATING	FACING	NECK	O.S. PROJ	I.S. PROJ	TYPE	'A'	'B'	REINFORCEMENT PAD	'C'	BLIND	NO STUDS	STUD SIZE	SERVICE	MARK
N8	1	3"	3000#	FNPT	STD	-	1/4"	V	1/4"	1/4"			N/A	N/A	N/A	BOTTOM WITHDRAW CONNCTION	N8
N7	1	3"	3000#	FNPT	STD	-	1/4"	V	1/4"	1/4"			N/A	N/A	N/A	BOTTOM WITHDRAW CONNCTION	N7
N6	1	2"	3000#	FNPT	STD	-	1/4"	V	1/4"	1/4"			N/A	N/A	N/A	SIDE SAMPLE CONNECTION	N6
N5	1	24"	150#	RFSO	SCH 80	-	1/4"	I,V	1/4"	1/4"			N/A	N/A	N/A	SIDE SHELL MANWAY	N5
N4	1	3"	3000#	FNPT	STD	-	1/4"	V	1/4"	1/4"			N/A	N/A	N/A	SPARE LINE CONNECTION	N4
N3	1	3"	3000#	FNPT	STD	-	1/4"	V	1/4"	1/4"			N/A	N/A	N/A	TOP SAFETY VENT CONNECTION	N3
N2	1	3"	3000#	FNPT	STD	-	1/4"	V	1/4"	1/4"			N/A	N/A	N/A	TOP VENT CONNECTION	N2
N1	1	3"	3000#	FNPT	STD	-	1/4"	V	1/4"	1/4"			N/A	N/A	N/A	TOP FILL CONNECTION	N1

SCHEDULE OF OPENINGS

MATERIAL THICKNESS

ROOF = 3/8" THK  
 SHELL = 1/4" THK  
 BOTTOM = 3/8" THK



REV	DESCRIPTION	DATE
5	MADE CORRECTION TO LIFT LUG & TAILING LUG ORIENTATION	8/19/14
4	CHANGED RADIOGRAPHY TO SPOT X-RAY	8/6/14
3	CHANGED MANWAY TO A 24" 150# RFSO FLANGE	7/18/14
2	CHANGES DONE PER ATTACHEMENT SKMBT_C45414070117010	7/2/14
1	CHANGES DONE PER ATTACHEMENT SKMBT_C45414062718170	6/30/14
0	FOR APPROVAL	6/20/14

DRAWN BY: C. VAZQUEZ  
 CHECKED BY: ---

**LONG INDUSTRIES** INC.

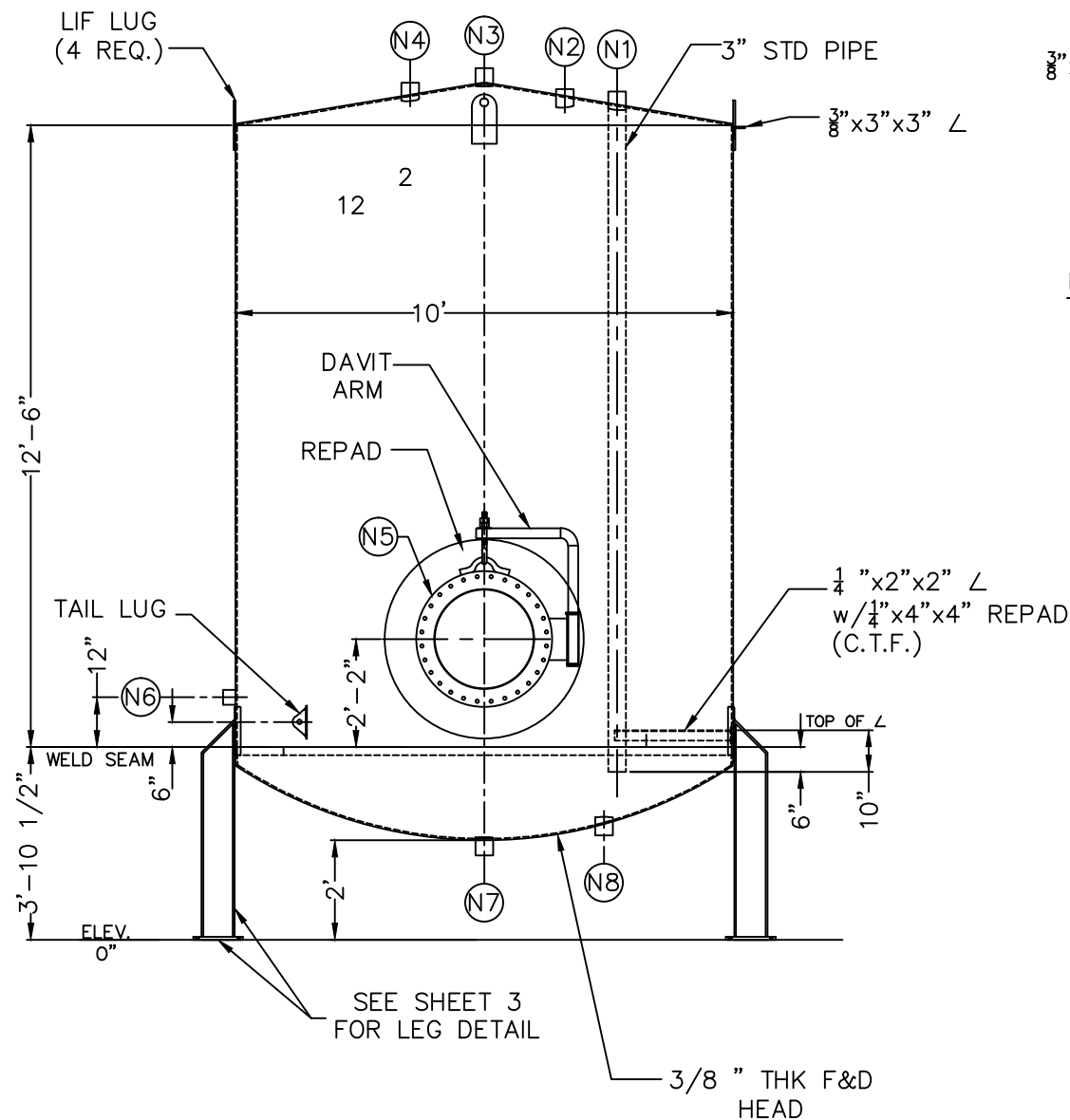
LONG INDUSTRIES.  
 105 FCR 413  
 BUFFALO TX 75831  
 (O) 903-389-3263  
 (F) 903-389-5505

PERMA PIPE

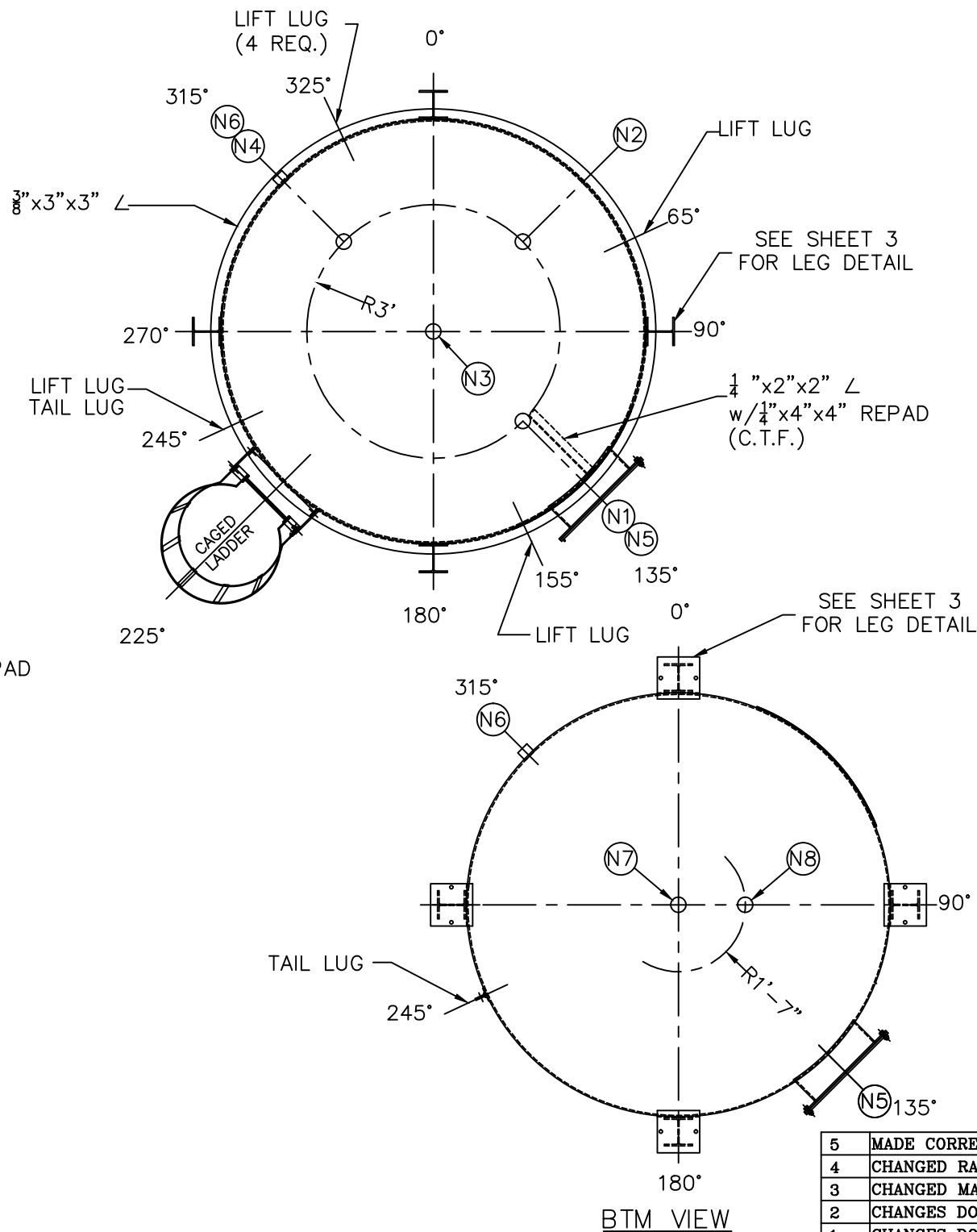
10' O.D. x 12'-6" TALL

DRAWING NO.	REV.
514200-1	5
P.O. # 00638	SHEET # 1

360° HANDRAIL  
SEE SHEET 4



ELEVATION VIEW



BTM VIEW

QTY: 2

GENERAL NOTES

- 1) ALL BOLT HOLES TO STRADDLE NORMAL TANK CENTERLINES UNLESS SHOWN OTHERWISE.
- 2) NOZZLE PROJECTIONS ARE FROM OUTSIDE OF TANK TO FACE OF FLANGE UNLESS SHOWN OTHERWISE .
- 3) TANK TO BE FREE FROM FOREIGN DEBRIS BEFORE SHIPMENT.
- 4) ALL DIMENSION'S ARE FROM BOTTOM OF TANK

DESIGN CRITERIA

CODE: API-620  
 FLUID: POLYURETHANE ISOCYANATE  
 SPECIFIC GRAVITY: 1.24 MAX  
 DESIGN PRESSURE: +.34 BARG (+5.0 PSIG)  
 DESIGN VACUUM: -.10 BARG (-1.5 PSIG)  
 DESIGN TEMPERATURE: 5° C MIN  
 50° C MAX  
 OPERATING PRESSURE: 1.0 PSIG  
 OPERATING VACUUM: -0.5 PSIG  
 OPERATING TEMPERATURE: 25°C  
 JOINT EFFICIENCY: 85%  
 RADIOGRAPHY: SPOT X-RAY  
 CORROSION ALLOWANCE: .030"  
 TEST: HYDRO PER API

MATERIAL

ROOF/SHELL & BOTTOM: A-36  
 REINFORCEMENTS PADS: A-36  
 STRUCTURAL SUPPORT: A-36  
 PIPE: SA-105-B  
 FLANGES/BLINDS/COUPLINGS & PLUGS: SA-105  
 BOLTING: SA-193-B7 / SA-194-2H  
 SERVICE GASKETS: APDM  
 ESTIMATED WEIGHT EMPTY: 9,000 LB  
 CAPACITY: 175 BBL  
 7,343 GAL

SURFACE PREP: SSPC-SP-----

INTERIOR PAINT

1st COAT: NONE

SURFACE PREP: SSPC-SP-----

EXTERIOR PAINT

1st COAT: SHERWIN WILLIAMS INDUSTRIAL ENAMEL  
 SAFETY RED 6174064

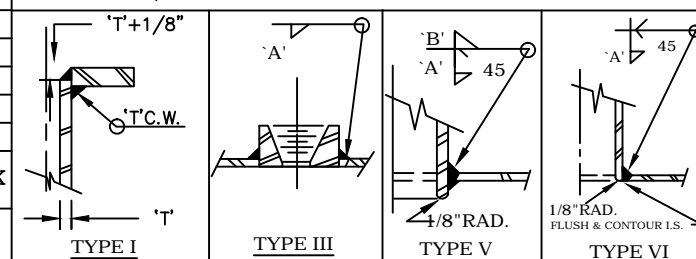
5	MADE CORRECTION TO LIFT LUG & TAILING LUG ORIENTATION	8/18/14
4	CHANGED RADIOGRAPHY TO SPOT X-RAY	8/6/14
3	CHANGED MANWAY TO A 24" 150# RFSO FLANGE	7/18/14
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1	CHANGES DONE PER ATTACHEMENT SKMBT_C45414062718170	6/30/14
0	FOR APPROVAL	6/20/14

MARK	QTY	SIZE	RATING	FACING	NECK	O.S. PROJ	I.S. PROJ	TYPE	'A'	'B'	REINFORCEMENT PAD	'C'	BLIND	NO STUDS	STUD SIZE	SERVICE	MARK
N8	1	3"	3000#	FNPT	STD	-	1/4"	V	1/4"	1/4"			N/A	N/A	N/A	BOTTOM WITHDRAW CONNIECTION	N8
N7	1	3"	3000#	FNPT	STD	-	1/4"	V	1/4"	1/4"			N/A	N/A	N/A	BOTTOM WITHDRAW CONNIECTION	N7
N6	1	2"	3000#	FNPT	STD	-	1/4"	V	1/4"	1/4"			N/A	N/A	N/A	SIDE SAMPLE CONNECTION	N6
N5	1	24"	150#	RFSO	SCH 80	-	1/4"	I,V	1/4"	1/4"			N/A	N/A	N/A	SIDE SHELL MANWAY	N5
N4	1	3"	3000#	FNPT	STD	-	1/4"	V	1/4"	1/4"			N/A	N/A	N/A	SPARE LINE CONNECTION	N4
N3	1	3"	3000#	FNPT	STD	-	1/4"	V	1/4"	1/4"			N/A	N/A	N/A	TOP SAFETY VENT CONNECTION	N3
N2	1	3"	3000#	FNPT	STD	-	1/4"	V	1/4"	1/4"			N/A	N/A	N/A	TOP VENT CONNECTION	N2
N1	1	3"	3000#	FNPT	STD	-	1/4"	V	1/4"	1/4"			N/A	N/A	N/A	TOP FILL CONNECTION	N1

SCHEDULE OF OPENINGS

MATERIAL THICKNESS

ROOF = 3/8" THK  
 SHELL = 1/4" THK  
 BOTTOM = 3/8" THK



REV	DESCRIPTION	DATE
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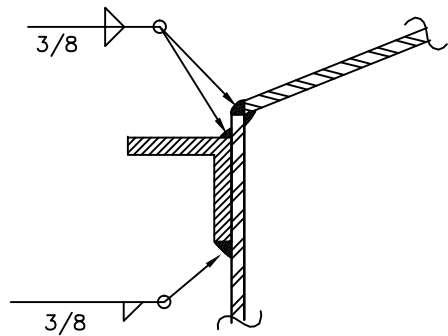
DRAWN BY:  
C. VAZQUEZ

CHECKED BY:

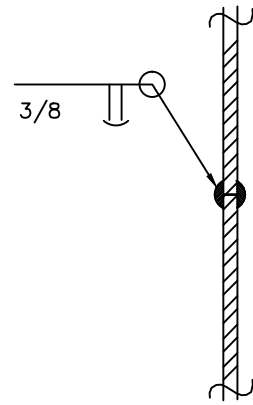
**LONG INDUSTRIES INC.**  
 LONG INDUSTRIES.  
 105 FCR 413  
 BUFFALO TX 75831  
 (O) 903-389-3263  
 (F) 903-389-5505

PERMA PIPE 10' O.D. x 12'-6" TALL	
DRAWING NO. 514200-2	REV. 5
P.O. # 00638	SHEET # 2

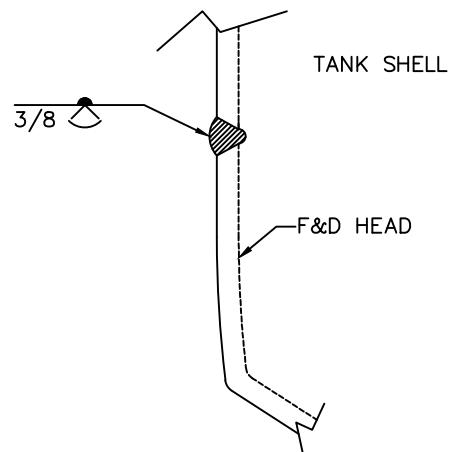
T-103  
T-104



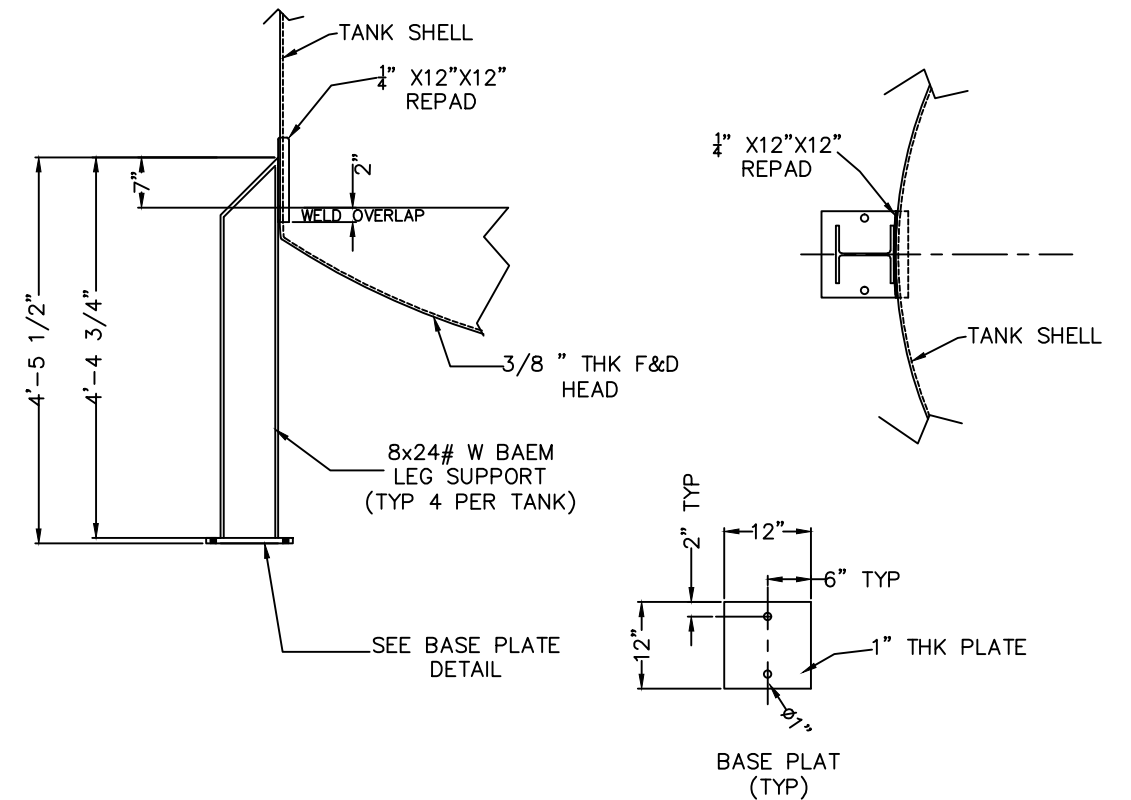
ROOF to SHELL DETAIL



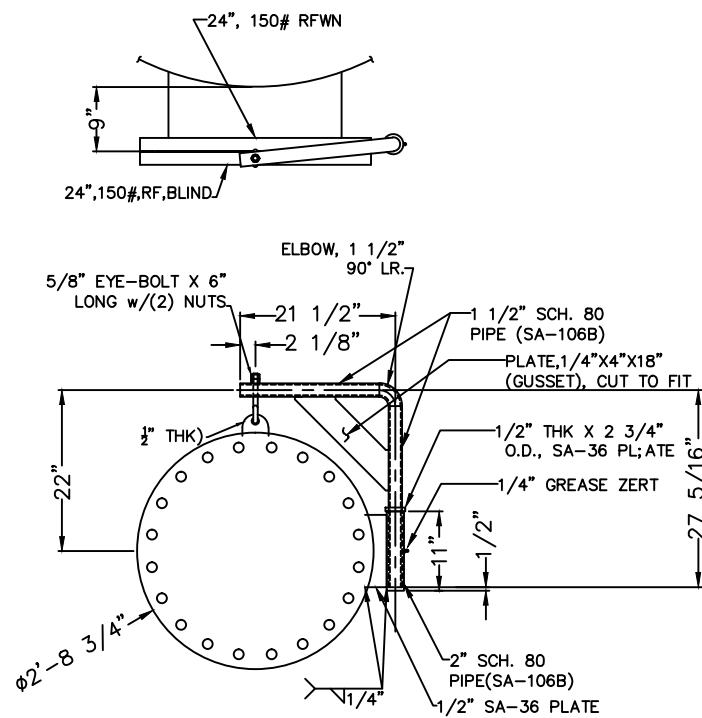
SHELL SEAM WELD DETAIL



SHELL TO HEAD DETAIL

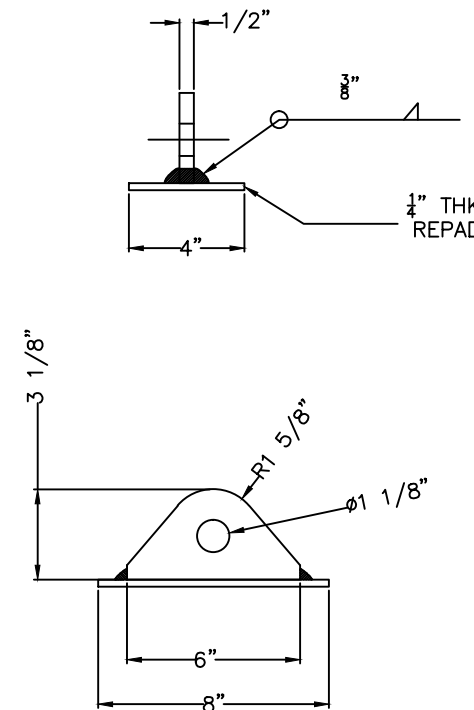
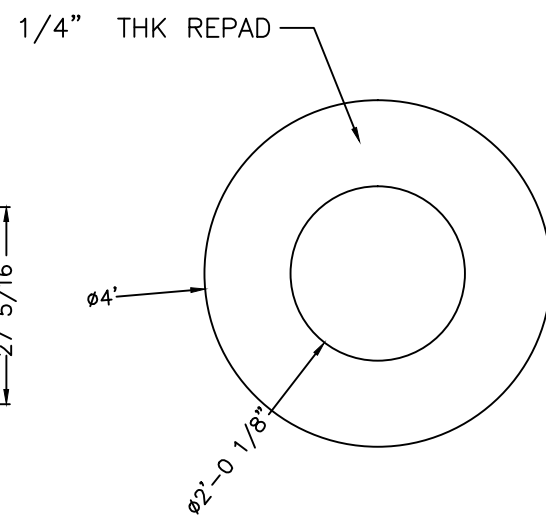


LEG DETAIL

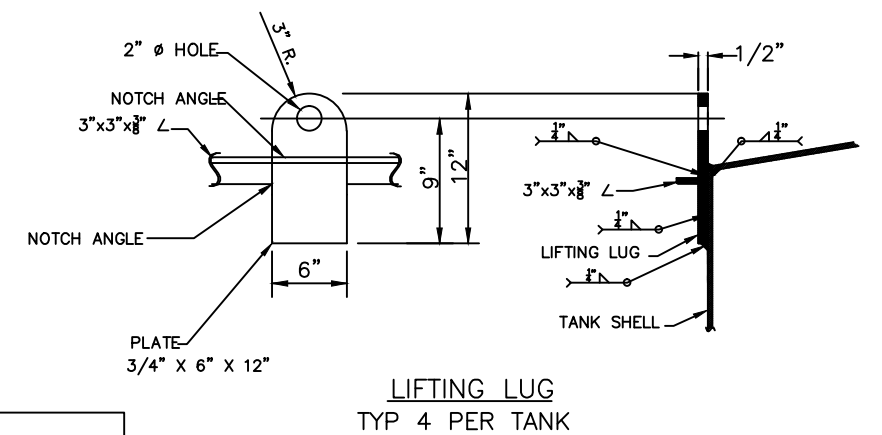


24" API SHELL MANWAY & DAVIT ARM DETAIL

SCALE: x2




TAILING LUG  
SCALE: x4

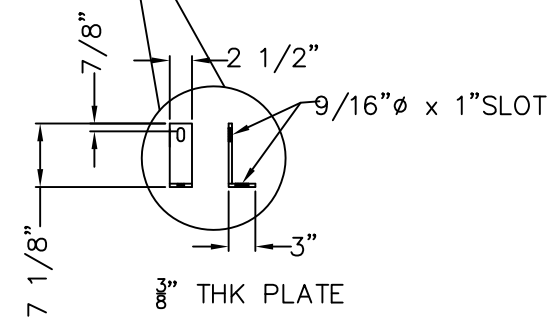
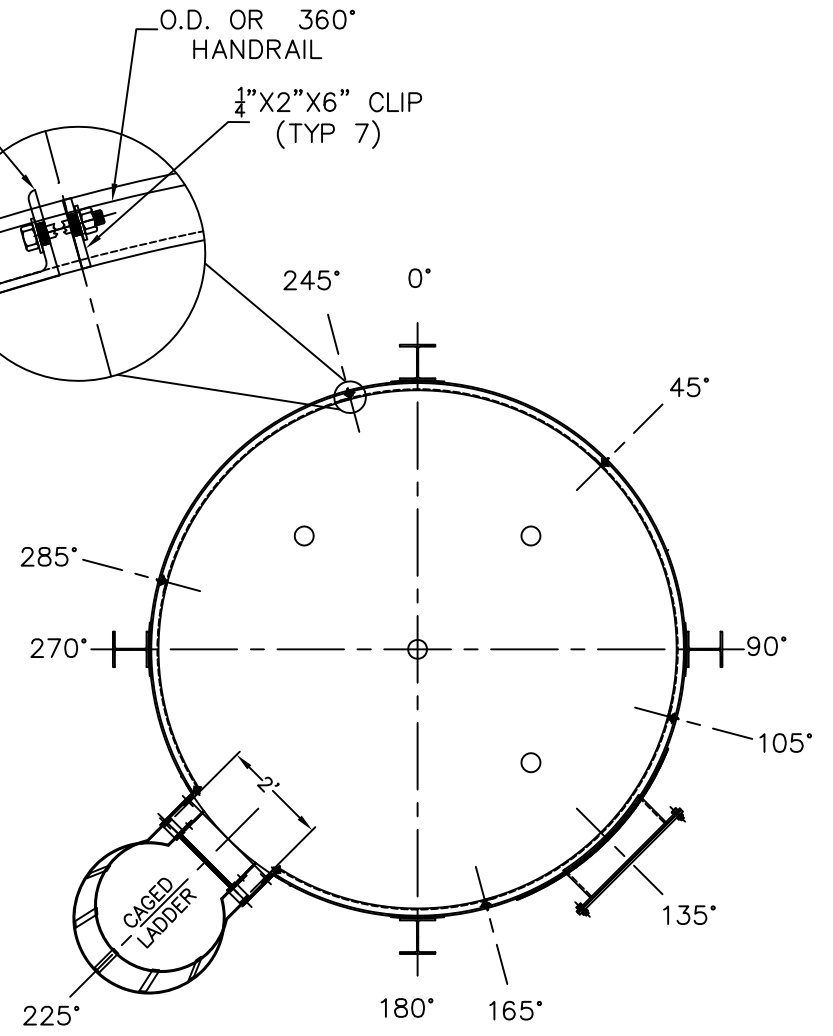
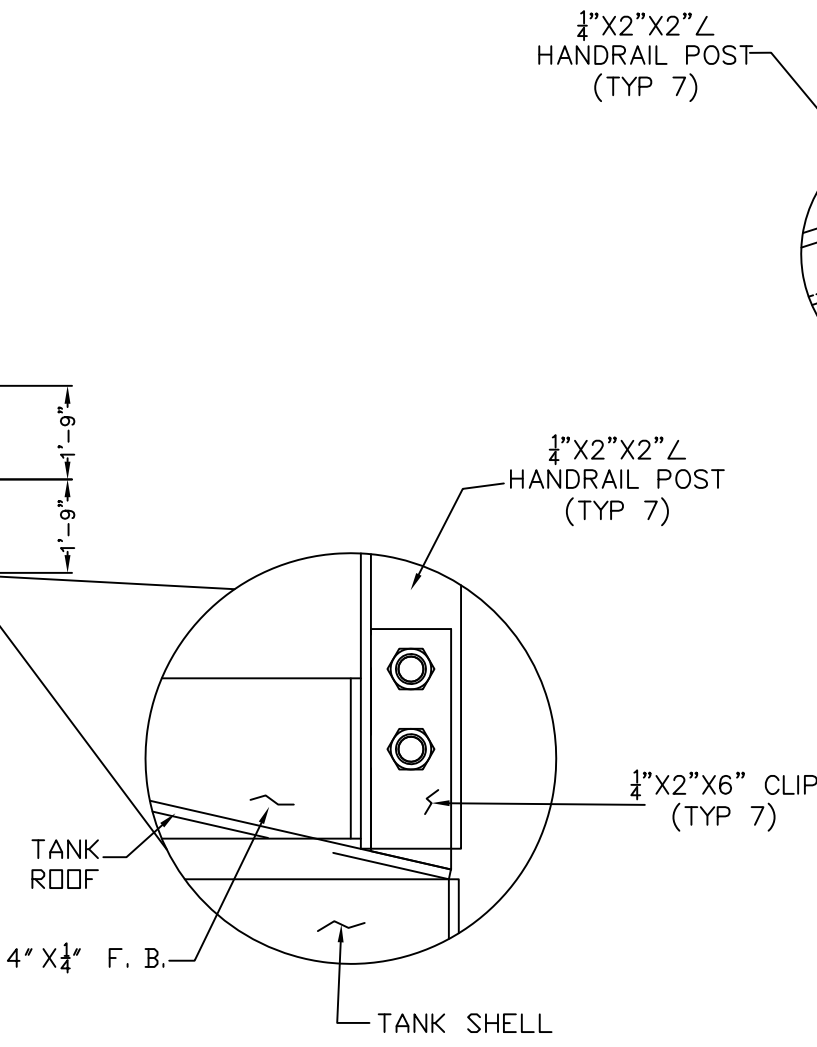
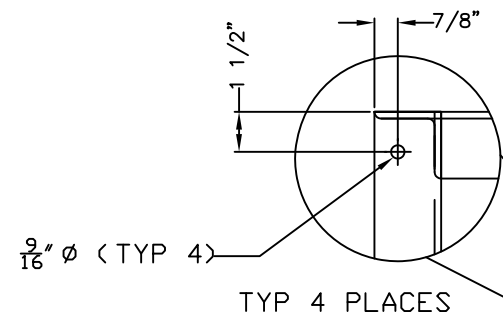
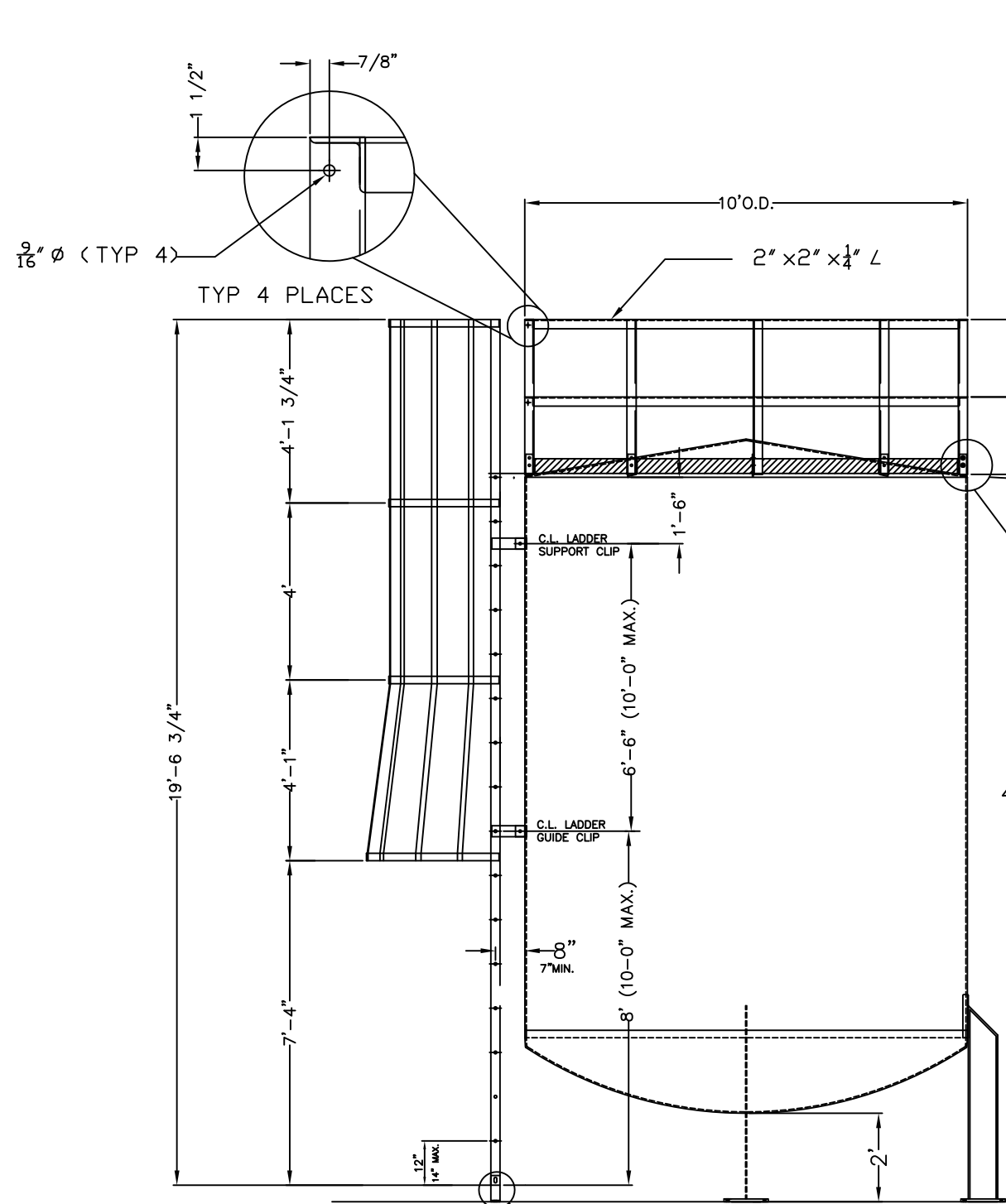


LIFTING LUG  
TYP 4 PER TANK

REV	DESCRIPTION	DATE
5	ADDED NOTE TO LEG DETAIL	8/21/14
4	CHANGED DIMENSION FOR 1" Ø CENTER TO O.D. OF BASE PLATE	8/5/14
3	ADDED DAVIT ARM DETAIL	7/18/14
2	CHANGES DONE PER ATTACHEMENT SKMBT_C45414070117010	7/2/14
1	CHANGES DONE PER ATTACHEMENT SKMBT_C45414062718170	6/30/14
0	FOR APPROVAL	6/20/14

REV	DESCRIPTION	DATE
DRAWN BY: C. VAZQUEZ		
CHECKED BY: ---		
		
<b>PERMA PIPE</b> 10' O.D. x 12'-6" TALL DETAIL SHEET		
DRAWING NO. 514200-3		REV. 5
P.O. # 00638		SHEET # 3

LONG INDUSTRIES.  
105 FCR 413  
BUFFALO TX 75831  
(O) 903-389-3283  
(F) 903-389-5505



**ISSUED FOR FABRICATION**  
**APPROVED BY: \_\_\_\_\_**  
**DATE: \_\_\_\_\_**

2	CHANGES DONE PER ATTACHEMENT SKMBT_C45414070117010	7/2/14
1	CHANGES DONE PER ATTACHEMENT SKMBT_C45414062718170	6/30/14
0	FOR APPROVAL	6/20/14
REV	DESCRIPTION	DATE
DRAWN BY: C. VAZQUEZ		
CHECKED BY: ---		
<b>LONG INDUSTRIES INC.</b> LONG INDUSTRIES. 105 FCR 413 BUFFALO TX 75831 (O) 903-389-3263 (F) 903-389-5505		
<b>PERMA PIPE</b> 10' O.D. x 12'-6" TALL LADDER DETAIL SHEET		
DRAWING NO. 514200-4		REV. 2
P.O. # 00638		SHEET # 4