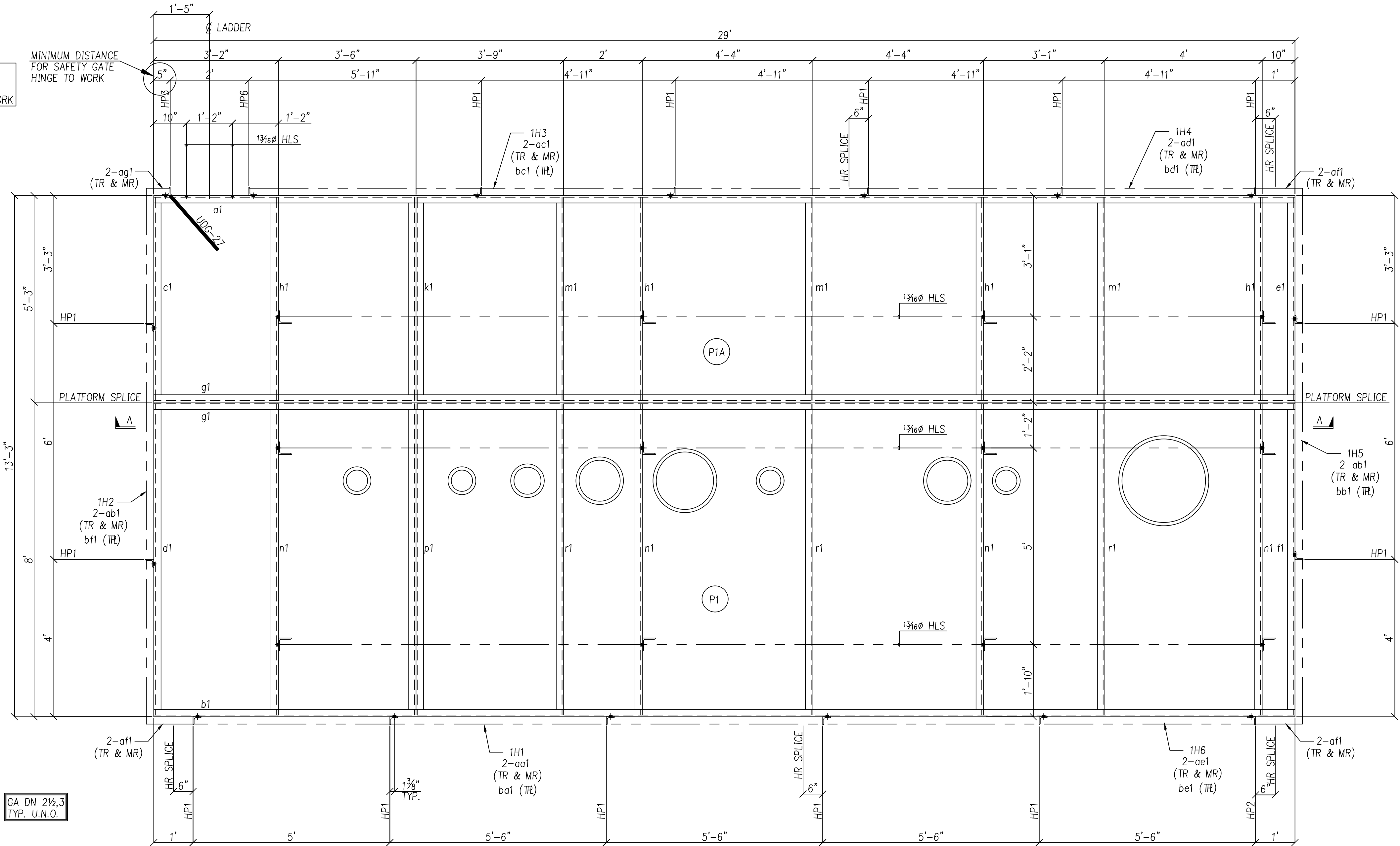


VERIFY THAT THIS IS OK

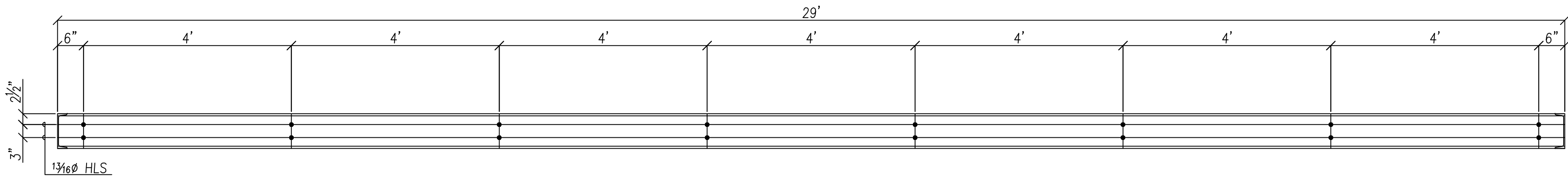
HAD TO MOVE THE LADDER 6" TO THE RIGHT TO MAKE THE SAFETY GATE WORK

MINIMUM DISTANCE FOR SAFETY GATE HINGE TO WORK



GA DN 2 1/2, 3 TYP. U.N.O.

PLATFORM # P1 & P1A
ONE - HANDRAIL - MK: 1H1
ONE - HANDRAIL - MK: 1H2
ONE - HANDRAIL - MK: 1H3
ONE - HANDRAIL - MK: 1H4
ONE - HANDRAIL - MK: 1H5
ONE - HANDRAIL - MK: 1H6
ONE - SAFETY GATE - MK: UDG-27



SECTION ~ A-A

SHIPPING MARK	TEMP. MARK	NL. REQ'D.	DESCRIPTION	LENGTH	MATERIAL	USE
P1		ONE	PLATFORM			
P1A		ONE	PLATFORM			
	a1	1	C8 x 11.5#	29'-0		
	b1	1	C8 x 11.5#	29'-0		
	c1	1	C8 x 11.5#	5'-2 1/2		
	d1	1	C8 x 11.5#	7'-11 1/2		
	e1	1	C8 x 11.5#	5'-2 1/2		
	f1	1	C8 x 11.5#	7'-11 1/2		
	g1	2	C8 x 11.5#	29'-0		
	h1	4	C8 x 11.5#	5'-2 1/2		
	k1	1	W8 x 13#	5'-2 1/2		
	m1	3	C8 x 11.5#	5'-2 1/2		
	n1	4	C8 x 11.5#	7'-11 1/2		
	p1	1	W8 x 13#	7'-11 1/2		
	r1	3	C8 x 11.5#	7'-11 1/2		
IH1		ONE	HANDRAIL			
IH2		ONE	HANDRAIL			
IH3		ONE	HANDRAIL			
IH4		ONE	HANDRAIL			
IH5		ONE	HANDRAIL			
IH6		ONE	HANDRAIL			
	aa1	2	L2 1/2x2 1/2x 1/4	15'-11 1/2		
	ab1	4	L2 1/2x2 1/2x 1/4	13'-7 1/2		
	ac1	2	L2 1/2x2 1/2x 1/4	15'-2 1/2		
	ad1	2	L2 1/2x2 1/2x 1/4	10'-10		
	ae1	2	L2 1/2x2 1/2x 1/4	12'-0		
	af1	6	L2 1/2x2 1/2x 1/4	0'-5 1/4		
	ag1	2	L2 1/2x2 1/2x 1/4	0'-4 3/4		
	HP1	14	L2 1/2x2 1/2x 1/4	4'-17 1/8		
	HP2	1	L2 1/2x2 1/2x 1/4	4'-17 1/8		
	HP3	1	L2 1/2x2 1/2x 1/4	4'-1 3/4		
	HP6	1	L2 1/2x2 1/2x 1/4	4'-1 3/4		
	SP1	8	FL1 1/2x3/8	0'-5		
	SP2	4	FL4x1/4	0'-5		
	ba1	1	FB4x1/4	15'-11 1/2		
	bb1	1	FB4x1/4 (BENT)	14'-1		
	bc1	1	FB4x1/4	15'-2 1/2		
	bd1	1	FB4x1/4	10'-10		
	be1	1	FB4x1/4	12'-0		
	bf1	1	FB4x1/4 (BENT)	14'-0 1/2		
UDG-27		ONE	SAFETY GATE BY INTREPID MODEL # UDG-27			
			FIELD BOLTS:			
		54	5/8" x 1 1/2 LG. A307 BOLTS W/ 1-HN EA.			
		40	3/4" x 2 LG. A325 BOLTS W/ 1-HHN & 1-HD WA. EA.			

REV NO	DESCRIPTION	BY	DATE	CK BY
0	FOR APPROVAL	.	.	.
1	REVISED PER CUSTOMERS MARKS	CR	5/19	TN

CERTIFIED BY: _____ DATE: _____

IIF
INNOVATIVE INDUSTRIAL FABRICATORS
KEITHVILLE, LOUISIANA
PH. 318-925-0330 FAX 318-925-9323
WARD TANK AND HEAT EXCHANGER CORP.
SHELL
DEER PARK, TX

CUSTOMER REFERENCE DATA

P.O. NO.	4527699470	ITEM NO.	VN-5820
JOB NO.		DWG. NO.	
		REV.	

TITLE:
PITCH TANK WASTE HEAT RECOVERY SEPARATOR PLATFORM# P1

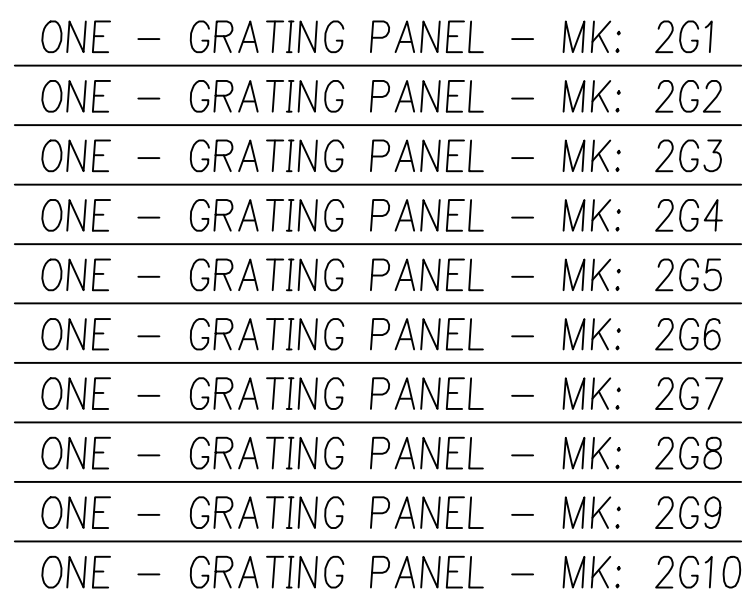
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DRAWN BY: CR	DATE: 4/19
CHECKED BY: TN	DATE: 4/19
APPROVED BY:	DATE:

S.O. NUMBER	DRAWING NO.	REV.
10332	WC-10332-01	1
SHEET 01 OF 01		

SHOP NOTE:
WORK THIS SHT.
WITH SHT. # 4

ALL HOLES 1 1/8" Ø U.N.

NOTE:
ALL MATERIAL TO BE HOT DIPPED
GALVANIZED AFTER FABRICATION.



TYPICAL TOE PLATE PENETRATION DETAIL

[illegible]

REV NO	DESCRIPTION	BY	DATE	CK BY
0	FOR APPROVAL	.	.	.
1	REVISED PER CUSTOMERS MARKS	CR	5/19	TN

CERTIFIED BY: _____ DATE: _____

IIF
INNOVATIVE INDUSTRIAL FABRICATORS
KEITHVILLE, LOUISIANA
PH. 318-925-0330 FAX 318-925-9323

WARD TANK AND HEAT EXCHANGER CORP.
SHELL
DEER PARK, TX

CUSTOMER REFERENCE DATA

P.O. NO. 4527699470	ITEM NO. VN-5820	
JOB NO.	DWG. NO.	REV.

TITLE:
PITCH TANK WASTE HEAT RECOVERY SEPARATOR
GRATING FOR PLATFORM P1

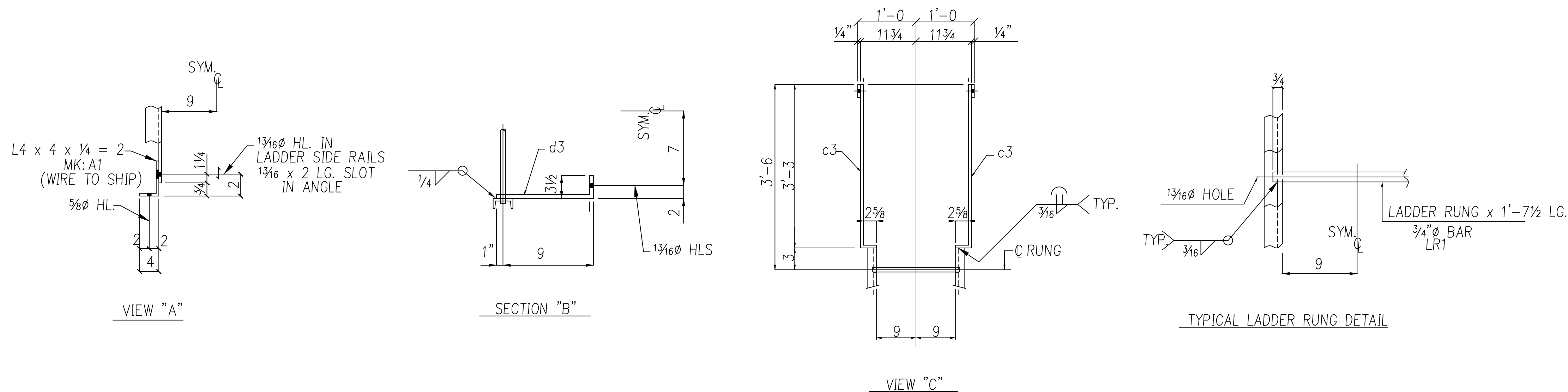
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DRAWN BY: CR	DATE: 4/19
CHECKED BY: TN	DATE: 4/19
APPROVED BY:	DATE:

S.O. NUMBER 10332	DRAWING NO. WC-10332-02	REV. 
	SHEET 02 OF	

SHOP NOTE:
WORK THIS SHT.
WITH SHT. # 4

ALL HOLES $1\frac{1}{16}"\varnothing$ U.N.

NOTE:
ALL MATERIAL TO BE HOT DIPPED
GALVANIZED AFTER FABRICATION.

[illegible]

REV NO	DESCRIPTION	BY	DATE	CK BY
0	FOR APPROVAL	.	.	.
1	REVISED PER CUSTOMERS MARKS	CR	5/19	TN

CERTIFIED BY: _____ DATE: _____

ITF

INNOVATIVE INDUSTRIAL FABRICATORS
KEITHVILLE, LOUISIANA
PH. 318-925-0330 FAX 318-925-9323
ARD TANK AND HEAT EXCHANGER CORP
SHELL
DEER PARK, TX

CUSTOMER REFERENCE DATA

P.O. NO.	4527699470	ITEM NO.	VN-5820
JOB NO.		DWG. NO.	REV.

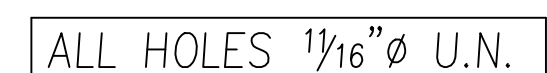
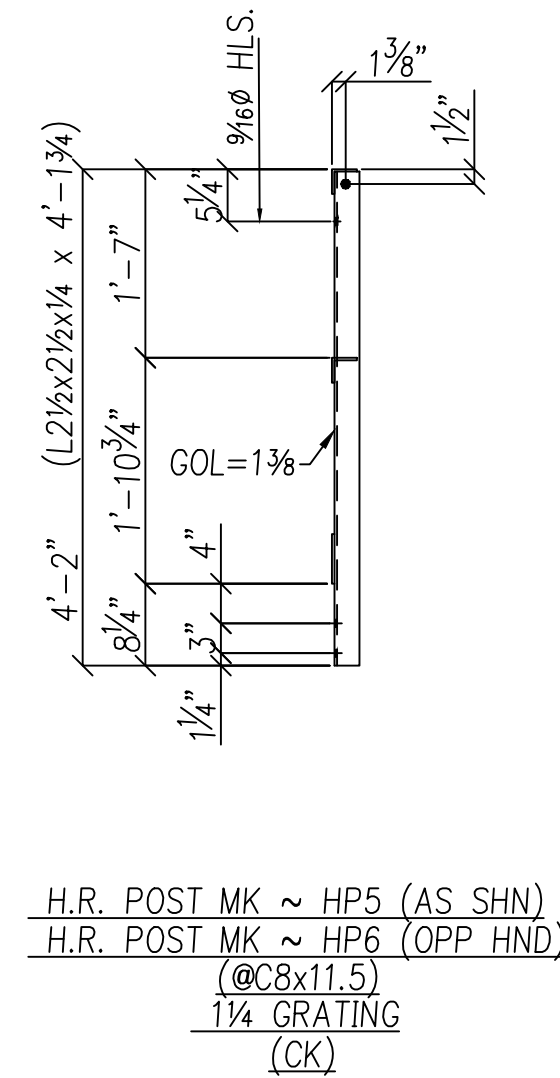
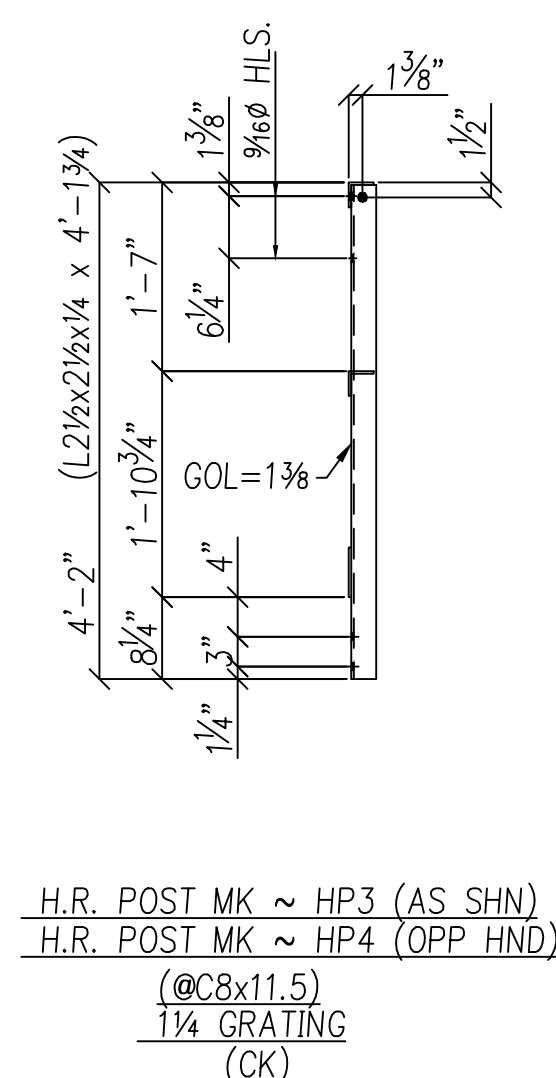
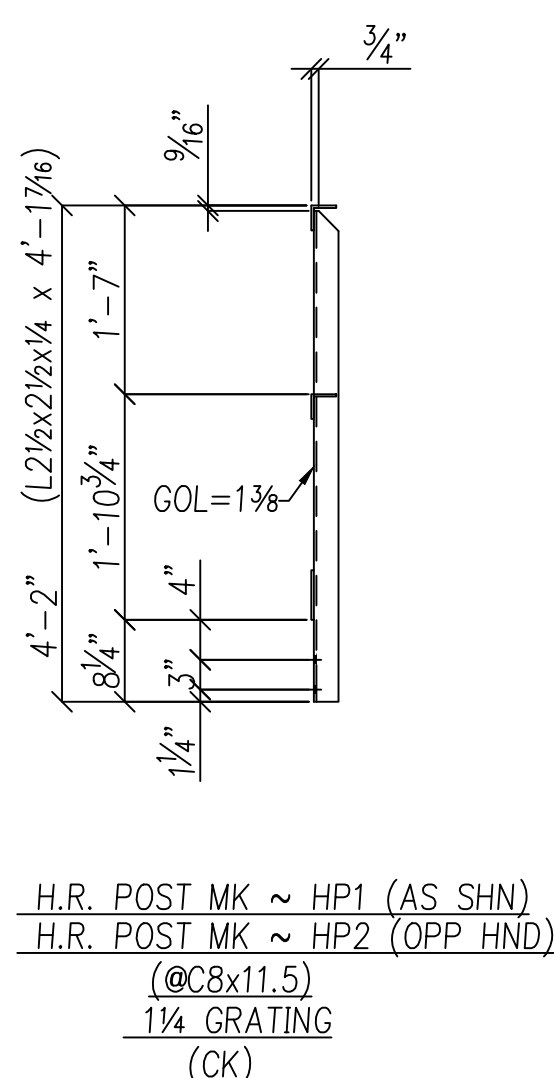
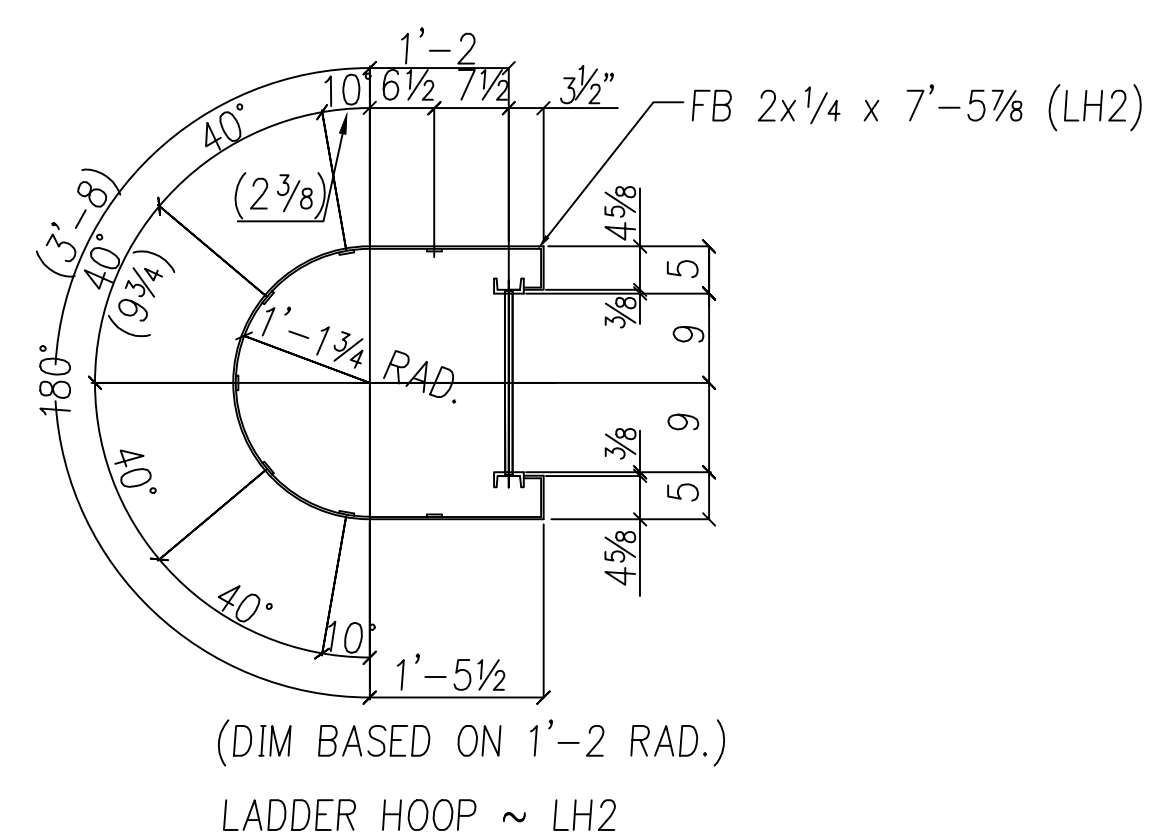
TITLE:
PITCH TANK WASTE HEAT RECOVERY SEPARATOR
GRATING FOR PLATFORM P1

DESIGN BY: X		DATE: X	
DRAWN BY: CR		DATE: 4/19	
CHECKED BY: TN		DATE: 4/19	
APPROVED BY:		DATE:	
S.O. NUMBER 10332	DRAWING NO.		REV. 
	WC-10332-03		
	SHEET 03 OF		

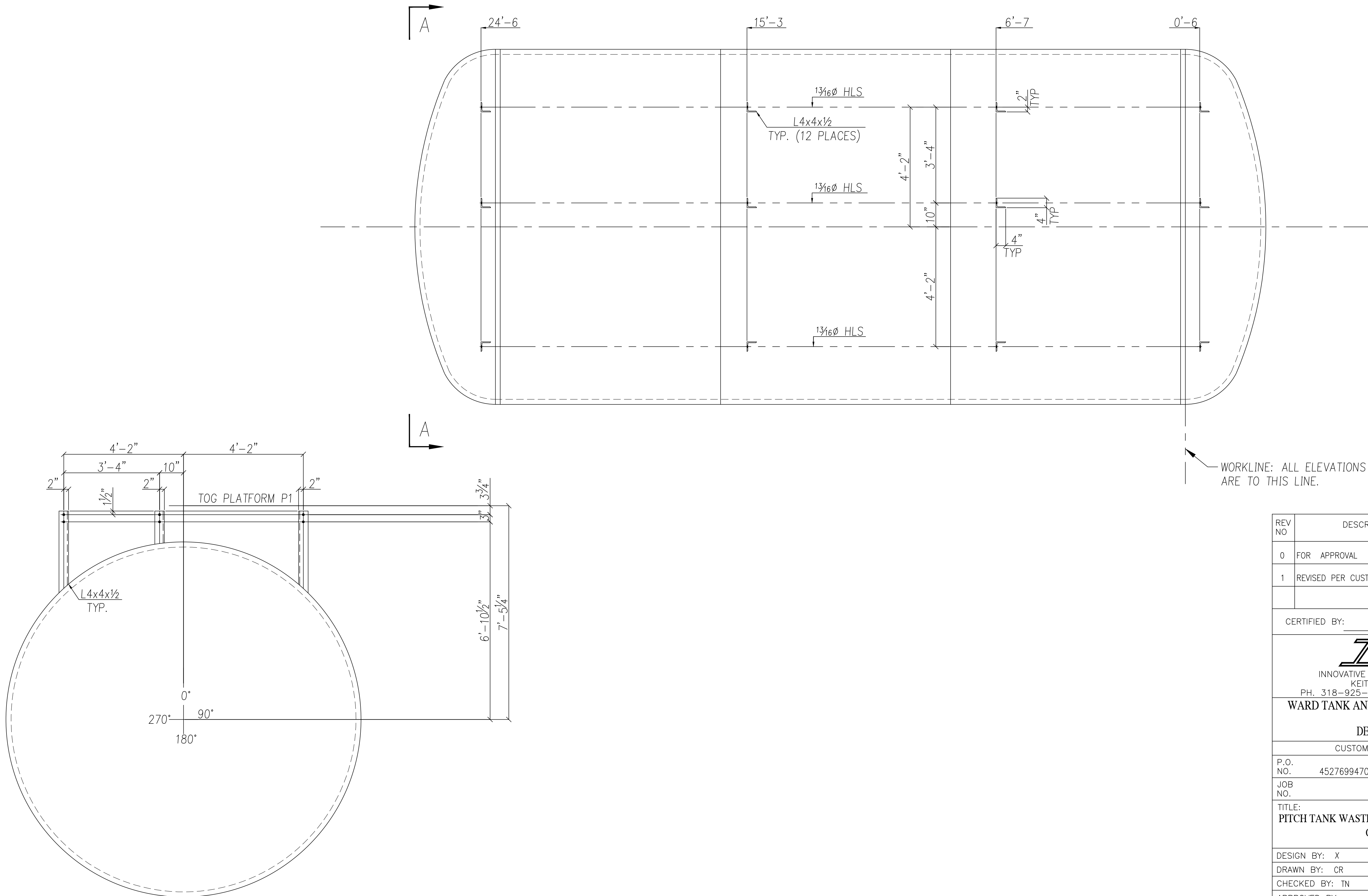
SHOP NOTE:
WORK THIS SHT.
WITH SHT. # 4

ALL HOLES $11/16"$ ϕ U.N.

NOTE:
ALL MATERIAL TO BE HOT DIPPED
GALVANIZED AFTER FABRICATION.



REV NO	DESCRIPTION	BY	DATE	CHK BY
0	FOR APPROVAL	.	.	.
1	REVISED PER CUSTOMERS MARKS	CR	5/19	TN
CERTIFIED BY: _____		DATE: _____		
 INNOVATIVE INDUSTRIAL FABRICATORS KEITHVILLE, LOUISIANA PH. 318-925-0330 FAX 318-925-9323				
WARD TANK AND HEAT EXCHANGER CORP. SHELL DEER PARK, TX				
CUSTOMER REFERENCE DATA				
P.O. NO. 4527699470		ITEM NO. VN-5820		
JOB NO.		DWG. NO.		REV.
TITLE: PITCH TANK WASTE HEAT RECOVERY SEPARATOR STANDARDS				
DESIGN BY: X		DATE: X		
DRAWN BY: CR		DATE: 4/19		
CHECKED BY: TN		DATE: 4/19		
APPROVED BY:		DATE:		
S.O. NUMBER 10332		DRAWING NO. WC-10332-04		REV. 1
		SHEET 04 OF		



WORKLINE: ALL ELEVATIONS
ARE TO THIS LINE.

REV NO	DESCRIPTION	BY	DATE	CK BY
0	FOR APPROVAL	.	.	.
1	REVISED PER CUSTOMERS MARKS	CR	5/19	TN

CERTIFIED BY: _____ DATE: _____

IIF
INNOVATIVE INDUSTRIAL FABRICATORS
KEITHVILLE, LOUISIANA
PH. 318-925-0330 FAX 318-925-9323

WARD TANK AND HEAT EXCHANGER CORP.
SHELL
DEER PARK, TX

CUSTOMER REFERENCE DATA			
P.O. NO.	4527699470	ITEM NO.	VN-5820
JOB NO.		DWG. NO.	REV.

TITLE:
**PITCH TANK WASTE HEAT RECOVERY SEPARATOR
CLIP PLAN**

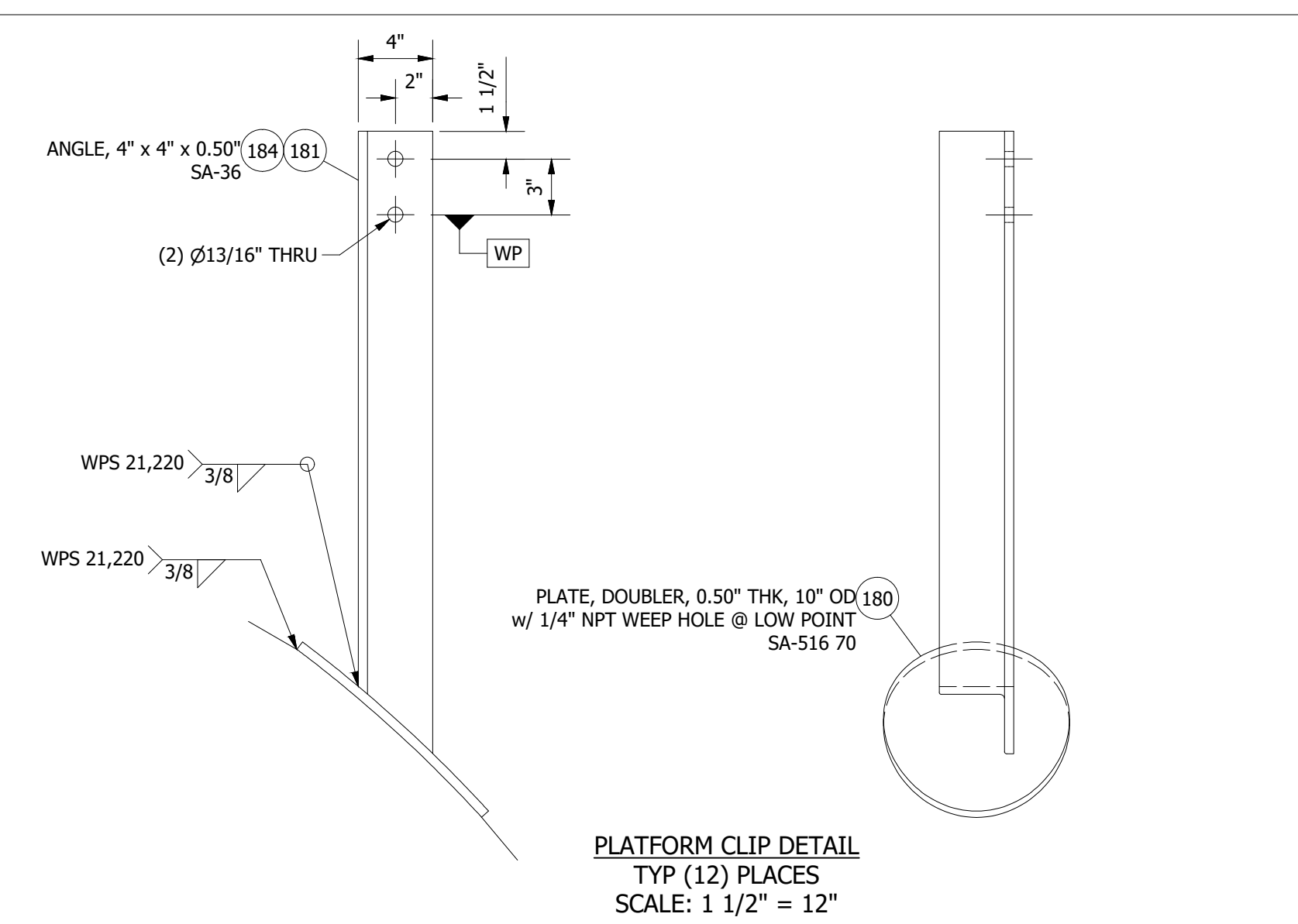
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DRAWN BY: CR	DATE: 4/19
CHECKED BY: TN	DATE: 4/19
APPROVED BY:	DATE:

S.O. NUMBER	DRAWING NO.	REV.
	WC-10332-05	1
	SHEET 05 OF 05	

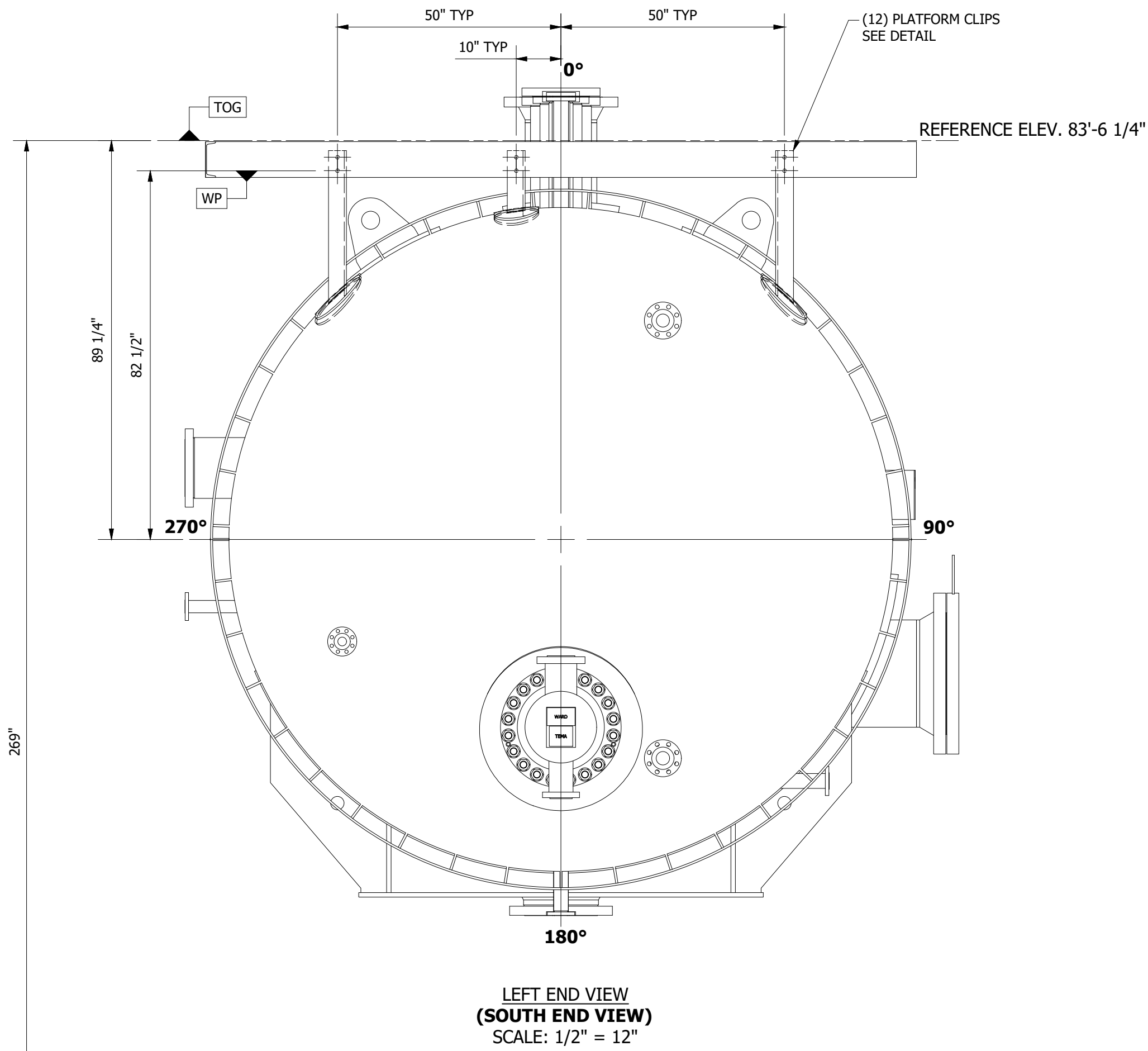
ALL HOLES 13/16" Ø U.N.



REV NO	DESCRIPTION	BY	DATE	CK BY
0	FOR APPROVAL	.	.	.
1	REVISED PER CUSTOMERS MARKS	CR	5/19	TN
CERTIFIED BY: _____ DATE: _____				
 I I F INNOVATIVE INDUSTRIAL FABRICATORS KEITHVILLE, LOUISIANA PH. 318-925-0330 FAX 318-925-9323				
WARD TANK AND HEAT EXCHANGER CORP. SHELL DEER PARK, TX				
CUSTOMER REFERENCE DATA				
P.O. NO. 4527699470		ITEM NO. VN-5820		
JOB NO.		DWG. NO.		REV.
TITLE: PITCH TANK WASTE HEAT RECOVERY SEPARATOR PLATFORM # P1				
DESIGN BY: X		DATE: X		
DRAWN BY: CR		DATE: 4/19		
CHECKED BY: TN		DATE: 4/19		
APPROVED BY:		DATE:		
S.O. NUMBER 10332		DRAWING NO. WC-10332-06		REV. 1
		SHEET 06 OF		

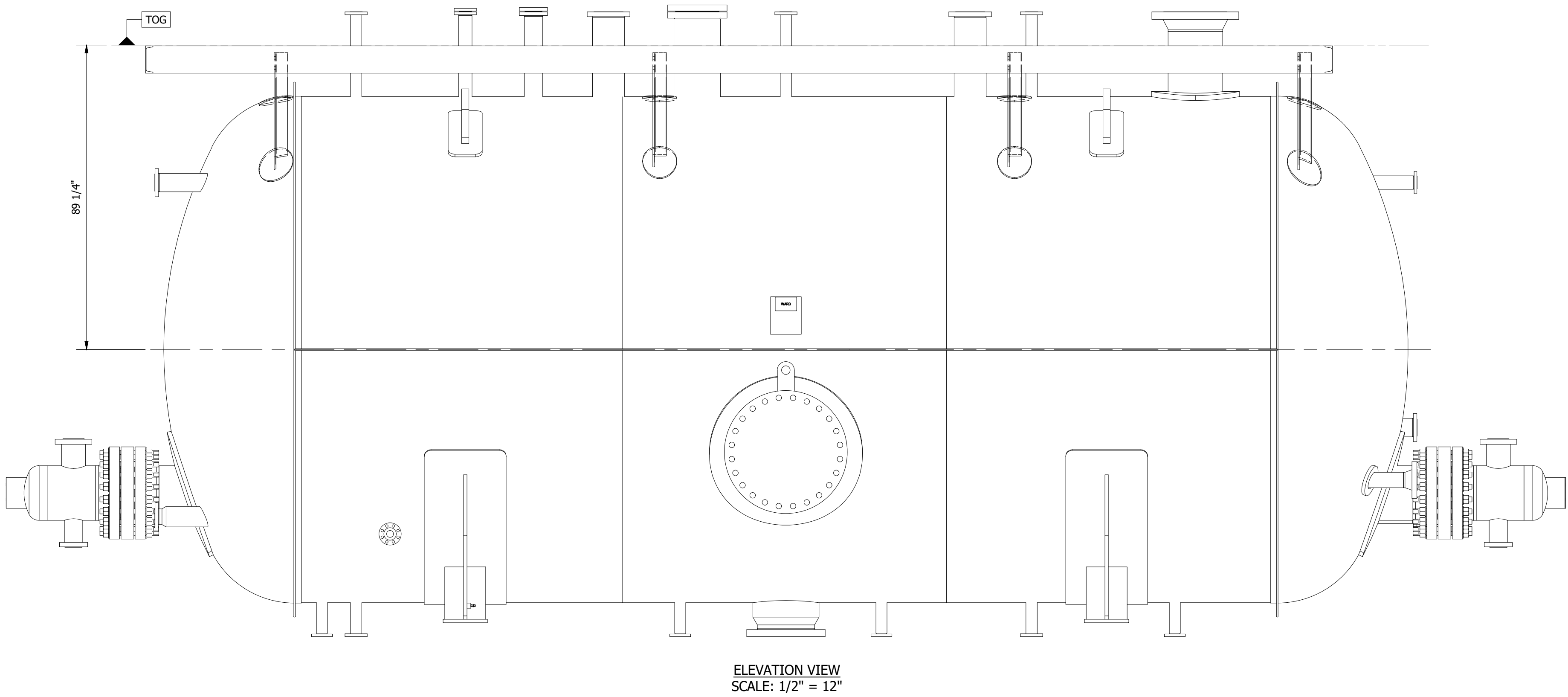
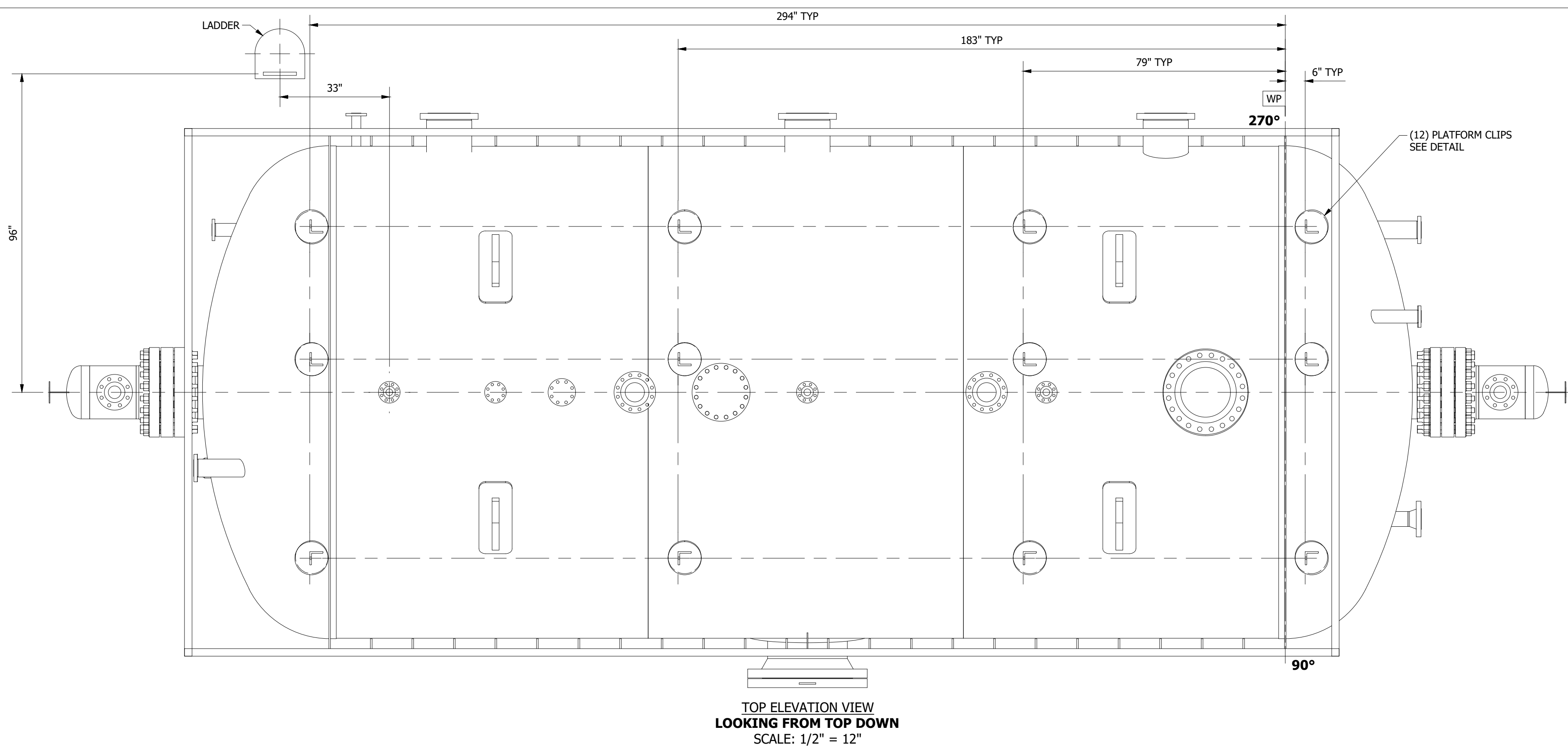


SEE TOP ELEVATION VIEW
FOR ORIENTATION OF ANGLES



LADDER ACCESS
REFERENCE ELEV. 61'-1 1/4"

GRADE
REFERENCE ELEV. 26'



CERTIFIED/SHOP PRINT

WARD TANK AND
HEAT EXCHANGER CORP

By: JRW
Date: 5/14/2019

WTC REQUESTS THAT DRAWINGS BE RETURNED
(ONLY IF REQUIRED)

MODIFIED DRAWINGS MUST BE RETURNED IMMEDIATELY
TO WTC FOR FABRICATION UPDATE.

PROJECT: 03541 HOT PITCH TANK

2	5/14/2019	REVISED LADDER LOCATION	DAM
1	4/24/2019	REMOVED LADDER CLIPS	DAM
0	4/9/2019	FOR CUSTOMER APPROVAL	JRW
REV	DATE	DESCRIPTION	APPROVED

THIS DRAWING IS THE PROPERTY OF WARD TANK AND HEAT EXCHANGER CORP ("WARD") AND THE BELOW NAMED CUSTOMER. THIS DRAWING IS ONLY TO BE USED IN REFERENCE TO WORK PROPOSED OR CONTRACTED BY EITHER WARD OR THE BELOW NAMED CUSTOMER AND ITS AFFILIATES AND/OR ON BEHALF OF WARD OR THE BELOW NAMED CUSTOMER AND ITS AFFILIATES. IT MUST NOT BE REPRODUCED OR SUBMITTED TO OUTSIDE PARTIES WITHOUT THE WRITTEN PERMISSION FROM WARD OR FROM THE BELOW NAMED CUSTOMER.

		WARD TANK AND HEAT EXCHANGER CORP 6670 E. HARRIS BLVD. CHARLOTTE, NC 28215	
CUSTOMER SHELL DEER PARK, TX		PURCHASE ORDER NUMBER 4527699470	
TITLE PITCH TANK WASTE HEAT RECOVERY SEPARATOR			
EQUIPMENT NO. VN-5820		SCALE AS NOTED	NO REQ'D 1
APPROVED BY DAM	DATE 4/9/2019	DRAWING NUMBER 2019-WC-10332LP	REV. NO. 2
SHEET 1 OF 1			

A. PROJECTION MEASURED FROM OUTSIDE OF VESSEL TO EXTREME GASKET FACE OF NOZZLE, UNLESS OTHERWISE SPECIFIED.
B. NOZZLE BOLT HOLES TO STRADDLE 0°-180° CENTERLINE OR ITS PARALLEL UNLESS NOTED OTHERWISE.
C. GASKET FINISH: 125 TO 250 μIN AVERAGE ROUGHNESS PER ASME B16.5-2013, PARA. 6.4.5.3
D. HYDRO-TEST SHALL BE PERFORMED WITH WATER CONTAINING NO MORE THAN 50 PPM CHLORIDE. VESSEL SHALL BE DRAINED AND ALL RESIDUAL WATER MUST BE REMOVED IMMEDIATELY FOLLOWING TEST.

I. INTERNAL COILS, EXTERNAL COILS/JACKETS (HALF PIPE, DIMPLED, CONVENTIONAL) MAY CONTAIN SOME TEST WATER AT TIME OF SHIPMENT DUE TO VESSEL
 CONFIGURATIONS RESULTING IN THE INABILITY TO COMPLETELY DRAIN AT OUR SHOP.
 J. ALL BUTT WELDS TO BE FULL PENETRATION UNLESS OTHERWISE SPECIFIED.
 K. TOLERANCES: PER WTC STANDARD & CUSTOMER STANDARD (WHEN APPLICABLE)
 L. ~~ALL WELDED CONNECTIONS TO BE PROVIDED w/GASKET & HARDWARE.~~
 M. ~~WELDING PROCEDURES:~~

1. VESSEL SHALL BE FABRICATED AND INSPECTED PER THE FOLLOWING SPECIFICATIONS:

- DEP 31.22.00.30 - EQUIPMENT CRITICALITY IN PRESSURE VESSELS
- DEP 31.22.00.31 - UNFIRED PRESSURE VESSELS
- DEP 30.10.60.18 - WELDING OF METALS
- DEP 31.48.00.31 - PROTECTIVE COATINGS
- DEP 34.28.00.33 - ONSHORE ANCILLARY STEEL STRUCTURES
- DEP 30.10.02.11 - METALLIC MATERIALS

2. GTAW SHALL BE USED FOR THE ROOT PASS FOR ALL 3" AND SMALLER NOZZLES. WHERE FULL PEN BUTT WELDS ARE SINGLE SIDED, BACK PURGE SHALL BE MAINTAINED FOR 1/4" WELD DEPTH.

3. GMAW PULSE AND GTAW PULSE FOR A ROOT PASS OF SINGLE SIDED WELDS SHALL BE MADE WITH SAME MAKE AND MODEL WELDING EQUIPMENT AS PQR.

4. PREHEAT SHALL BE MAINTAINED BETWEEN SHIFTS PER DEP 30.10.60.18 PARA 6.1.2.

5. PRODUCTION WELDING TEST PLATES (RUN-OUT TABS) ARE REQUIRED IN ACCORDANCE WITH DEP 31.22.00.31 PARA 6.2.4.

6. MAG PARTICLE EXAMINATION AS FOLLOWS:

- ALL PRESSURE WELD BACK GOUGES
- ALL FINISHED PRESSURE WELDS
- ALL ATTACHMENT WELDS (LUGS, SUPPORTS, ETC)
- ACCIDENTAL ARC STRIKES
- WHERE TEMP ATTACHMENTS WERE REMOVED AND GROUND FLUSH
- FINAL TESTING SHALL BE AFTER PWHT

7. ALL PRESSURE WELDS SHALL BE HARDNESS TESTED ON BASE METAL, HAZ AND WELD. (1) TEST SET PER 10 FT OF WELD SEAM, (1) TEST SET PER NOZZLE TO SHELL/HEAD & (1) TEST SET PER NOZZLE TO FLANGE.

HARDNESS TESTING SHALL BE IN ACCORDANCE WITH DEP 30.10.60.18, 300 HV10 MAX.

8. FINISHED NOZZLE TO HEAD/SHELL/REPAID WELDS SHALL BE PHASED ARRAY UT TESTED FOR DEFECTS. FINISHED SHELL & HEAD SEAMS SHALL BE UT TESTED w/ CONTINUOUS TOFD.

9. BASELINE UT SHALL BE AS FOLLOWS:

- (2) READINGS PER SKIRT/SHELL CAN
- (3) READINGS PER HEAD
- (2) PER SADDLE COMPONENT

10. RADIOGRAPHY SHALL BE PERFORMED BEFORE AND AFTER PWHT.

11. SS DEMISTER PARTS AND SS INTERNAL BOLTING SHALL BE PMI TESTED PER DEP 31.10.00.10.

12. TOLERANCES PER DEP 31.22.00.31 APPENDIX B.

13. TEMPORARY ATTACHMENTS ARE TO BE SAME MATERIAL P NO AS BASE METAL. TEMP ATTACHMENTS SHALL BE REMOVED PRIOR TO PWHT BY CUTTING 1/4" AWAY FROM PRESSURE BOUNDARY AND GRINDING FL.

14. MTRS FOR ALL PRESSURE PARTS, LIFT LUGS AND SUPPORTS SHALL BE INCLUDED WITH FINAL DOCUMENT PACKAGE. BOLTING SHALL BE PROVIDED WITH TYPICAL MTRS.

15. MULTI-SECTION REPAIRS SHALL BE SPLIT IN CIRCUMFERENTIAL DIRECTION AND HAVE A WEEP HOLE AT THE LOW POINT ON EACH PIECE, TO BE FILLED WITH GREASE AFTER ALL TESTING, PRIOR TO SHIPMENT.

16. ALL REPAIRS SHALL BE HYDROTESTED W/ SERVICE GASKETS AND SHIP NOT BE USED FOR EQUIPMENT AFTER HYDRO.

17. ALL NOZZLES NOT PROVIDED WITH SERVICE BLINDS SHALL SHIP WITH 1/4" THK COVERS OF SIMLAR P NO AS VESSEL w/ RED RUBBER GASKET & MIN (4) GARDEN VARIETY BOLTS FOR SHIPMENT.

18. EQUIPMENT SHALL SHIP w/ (1) SPARE SET GASKETS & 10% BOLTING FOR COMPLETED CONNECTIONS, MARKED w/ CUSTOMER P# & EQUIP#.

19. PWHT SHALL BE PER ASME SECT VIII DIV 1 PART UCS 56 AND DEP 30.10.02.17 PARA 2.3.6. PWHT TEMPERATURE OF 1125°F +/- 25°F SHALL BE MAINTAINED FOR 135 MIN.

20. VESSEL EXTERNAL SURFACES SHALL BE PREPARED AND COATED PER DEP 30.48.00.31 CODE LC11 AND AS FOLLOWS:

- BLAST EXTERNAL SURFACES TO SSPC-SP-10 (NEAR WHITE BLAST)
- PAINT (2) COATS THURMALOX 225 HD, 4-5 MILS DFT EA, TOP COAT COLOR GRAY
- STENCIL ON SHELL, ON 3" HIGH LETTERS: P# & EQUIP#, WVE 55 IN 8" HEAT TREATED - DO NOT BURN OR WELD"

21. ALL REPAIRS SHALL SATISFY UC-37(h)(1) FOR A JOINT EFFICIENCY: 1

22. BEFORE APPLICATION OF TEST PRESSURE, THE TEST FLUID AND VESSEL MATERIAL SHALL BE ALLOWED TO EQUILIBRATE TO APPROXIMATELY THE SAME TEMPERATURE.

23. FOR WPS 21,220 SEE WELDING PROCEDURE SPEC. PROJECT ADDENDA DOC.

REQUIREMENT REQUIRED w/REPORTS		REQUIREMENT DESCRIPTION	COMMENTS	INSPECTOR	DATE
YES	NO				
X		LIQUID PENETRANT TEST			
X		MAGNETIC PARTICLE TEST	SEE NOTE 6		
X	X	BUBBLE LEAK TEST			
X		BUBBLE LEAK TEST - REPADS	25 PSI		
X		BUBBLE LEAK TEST - DOUBLERS	25 PSI		
X	X	FERROXYL TEST			
X		POSITIVE MATL IDENTIFICATION	SEE NOTE 11		
X		BASELINE THK MEASUREMENT	SEE NOTE 9		
X	X	FERRITE TEST			
X		HARDNESS TEST	SEE NOTE 7		
X		ULTRASONIC TEST	SEE NOTE 8		

 NB AFTER HYDRO	FABRICATED & CERTIFIED BY					
	U					
	W					
	RT-1					
	HT					
PLANT:		HOUSTON				
SHELL/SIDE		JKT/TUBESIDE	COIL			
MAWP:	FV/500	----	----	----	PSIG	
TEMP:	650	----	----	----	°F	
MDMT:	15	----	----	----	°F	
TEST:	738	----	----	----	PSIG	
MFRG. S. N.	KC-10332		YR. BUILT/AFTER HYDRO			
CUSTOMER	SHELL - DEER PARK, TX					
P.O. NO.	4527699470		DATE:	1/31/2019		
TITLE	CS WASTE RECOVERY SEPARATOR					
EQUIP. NO.	VN-5820		----			

NOTE: NOZZLES FLANGES 'M2, M3, & S' & PIPE DESIGNED FOR 715 PSIG @ 800°F. HOWEVER NOZZLE REINFORCEMENT FOR VESSEL INTERNAL PRESSURE IS NOT PART OF THIS DESIGN

CODE: ASME SECTION VIII DIV.1 2017 ED										STAMPED									
SHELL										JACKET									
DESIGN PRESS (PSI)		MAWP (PSI)		MAWP LIMITER		TEMP °F		CA		DESIGN PRESS (PSI)		MAWP (PSI)		MAWP LIMITER		TEMP °F		CA	
FV/500		FV/500		HEAD		650		1/8"		---		---		---		---			
SPECIFIC GRAVITY: 1.0										SPECIFIC GRAVITY: ---									
RADIOGRAPHIC REQUIREMENTS w/REPORTS										RADIOGRAPHIC REQUIREMENTS w/REPORTS									
FULL		LETHAL		SPOT		SPECIAL		NONE		FULL		LETHAL		SPOT		SPECIAL		NONE	
X																			
OTHER RADIOGRAPHY EFFICIENCY: SEE NOTE 10 & 21										OTHER RADIOGRAPHY: ---									
INNER SHELL JOINT EFFICIENCY					SHELL STRESS RELIEF					JACKET JOINT EFFICIENCY					JACKET STRESS RELIEF				
HEAD		SHELL		SEE NOTE 19					HEAD		SHELL								
100%		100%		---					---		---		---						
HYDROSTATIC TEST										PRESSURE (PSI)		DURATION (MINUTES)		CHART RECORD					
YES		NO		CHAMBER										YES		NO			
X				SHELL UG-99(c), SEE NOTE 22						738		60				X			
		X		JACKET						---		---				X			

(SEE "SCHEDULE OF OPENINGS" FOR ALL NOZZLE DATA)

TYPE OF HEADS:		
SHELL:	_____	ASME 2:1 ELLIP
JACKET:	_____	---
SHELL MATERIALS:		
SHELL:	_____	SA-516 70 N
JACKET:	_____	---
HEAD MATERIALS:		
SHELL:	_____	SA-516 70 N
JACKET:	_____	---
COIL:		---
GIRTH FLANGE(S): _____		---
SUPPORT(S): _____	SADDLES: SA-516 70N; SA-516 70	
BOLTING: _____	SA-193 B7 / SA-194 2H	
GASKET: _____	1/8" THK SPIRAL WOUND, 316LSS w/GRAPHITE, 316SS INNER, CS OUTER RING	
INSULATION TYPE/MATERIAL: _____		4.7" THK MINERAL WOOL
PAINT TYPE/SPEC: _____		SEE NOTE 20
INTERNAL FINISH: _____		MILL

SHIPPING WEIGHT: 144000 LBS
TEST WEIGHT: 329000 LBS
SHIPPING ENVELOPE: 188 HEIGHT 176 WIDTH 464 LENGTH
VESSEL ORIENTATION FOR SHIPMENT: 180 DEGREES DOWN

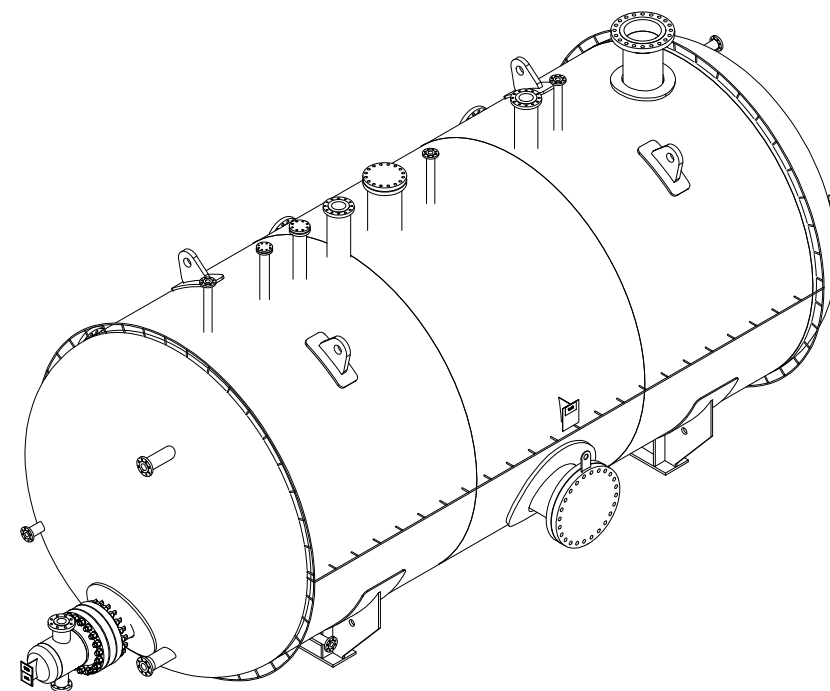
REVISIONS			APPROVE
REV	DATE	DESCRIPTION	
0	3/1/2019	FOR CUSTOMER APPROVAL	JRW
1	3/25/2019	REVISED PER CUSTOMER COMMENTS / RELEASED FOR FABRICATION	DAM
2	4/16/2019	REVISED LONG SEAM ORIENTATIONS, LIFTING LUGS, MOVED NOZ 2", EARTH BOSSES	DAM
3	5/17/2019	REVISED DEMISTER TABS, ADDED TORQUE NOTE	DAM

WARD TANK AND
HEAT EXCHANGER CORP.

By: JRW
Date: 3/25/2019

WTC REQUESTS THAT DRAWINGS BE RETURNED
(ONLY IF REQUIRED)

MODIFIED DRAWINGS MUST BE RETURNED IMMEDIATELY
TO WTC FOR FABRICATION UPDATE.



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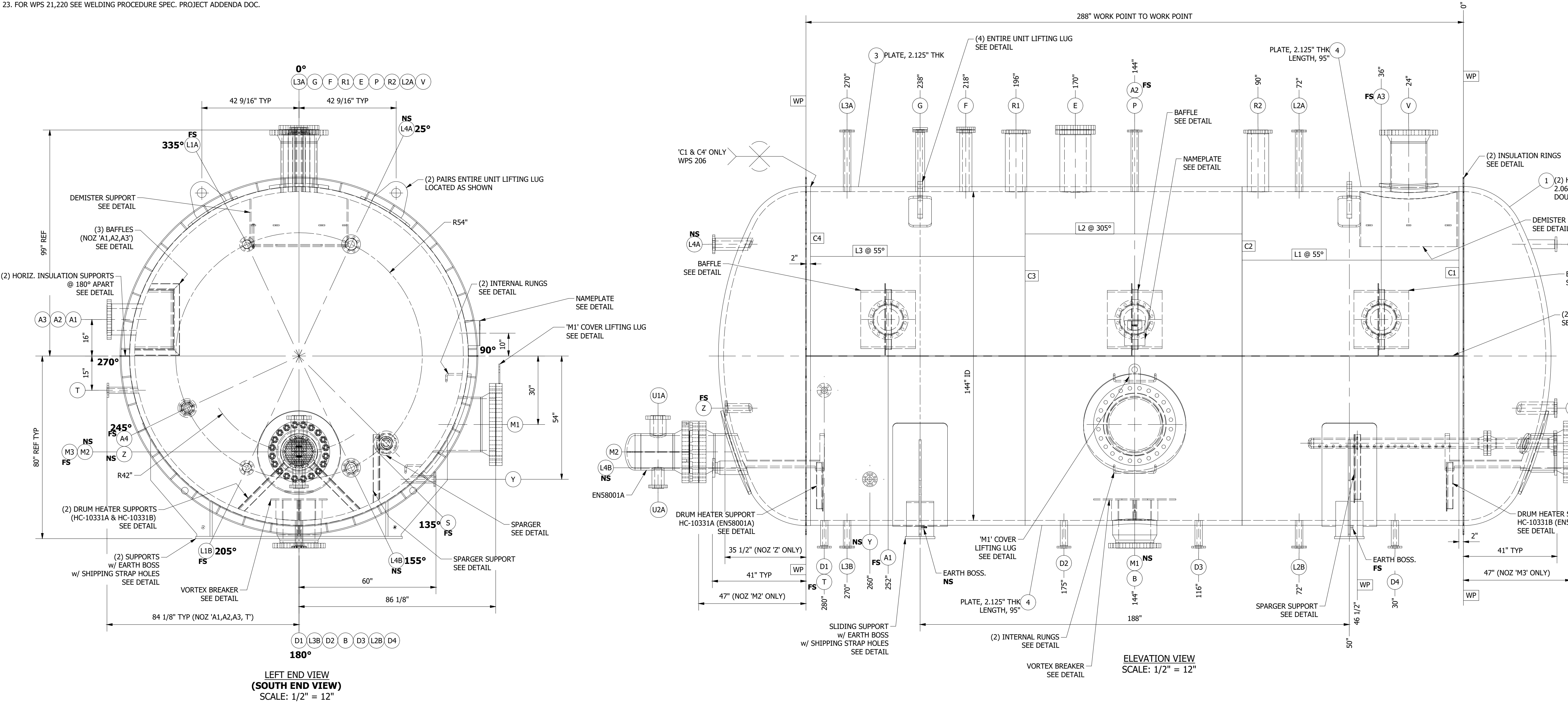


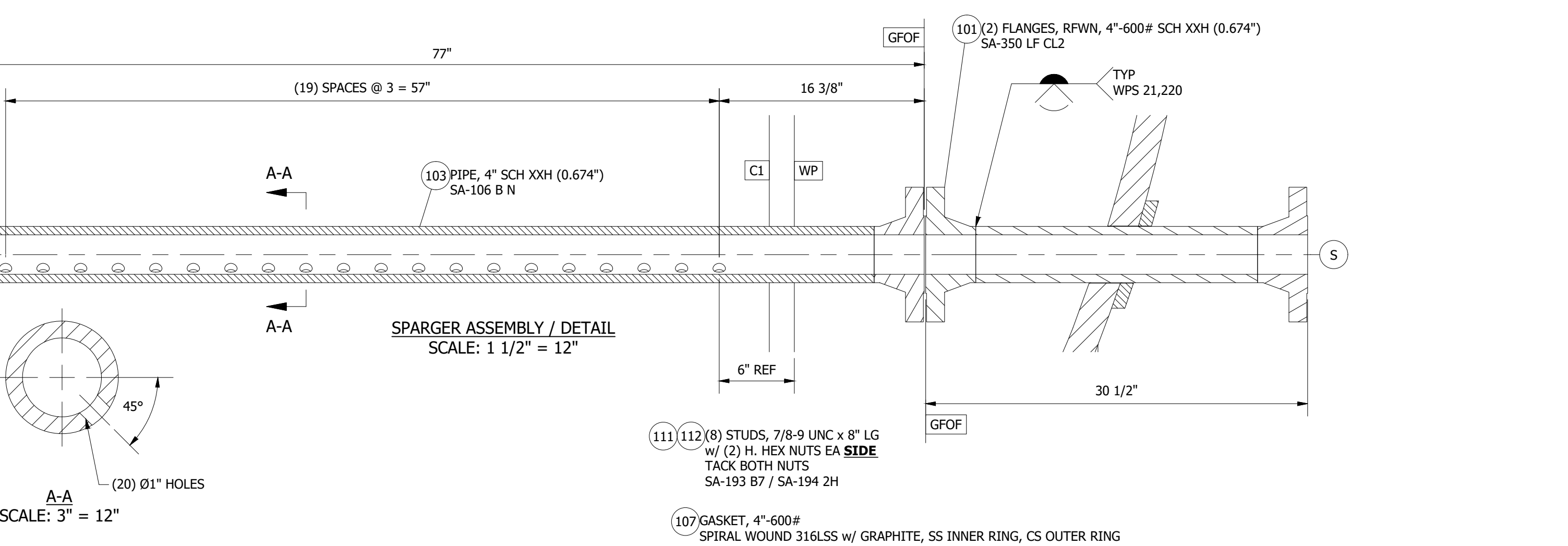
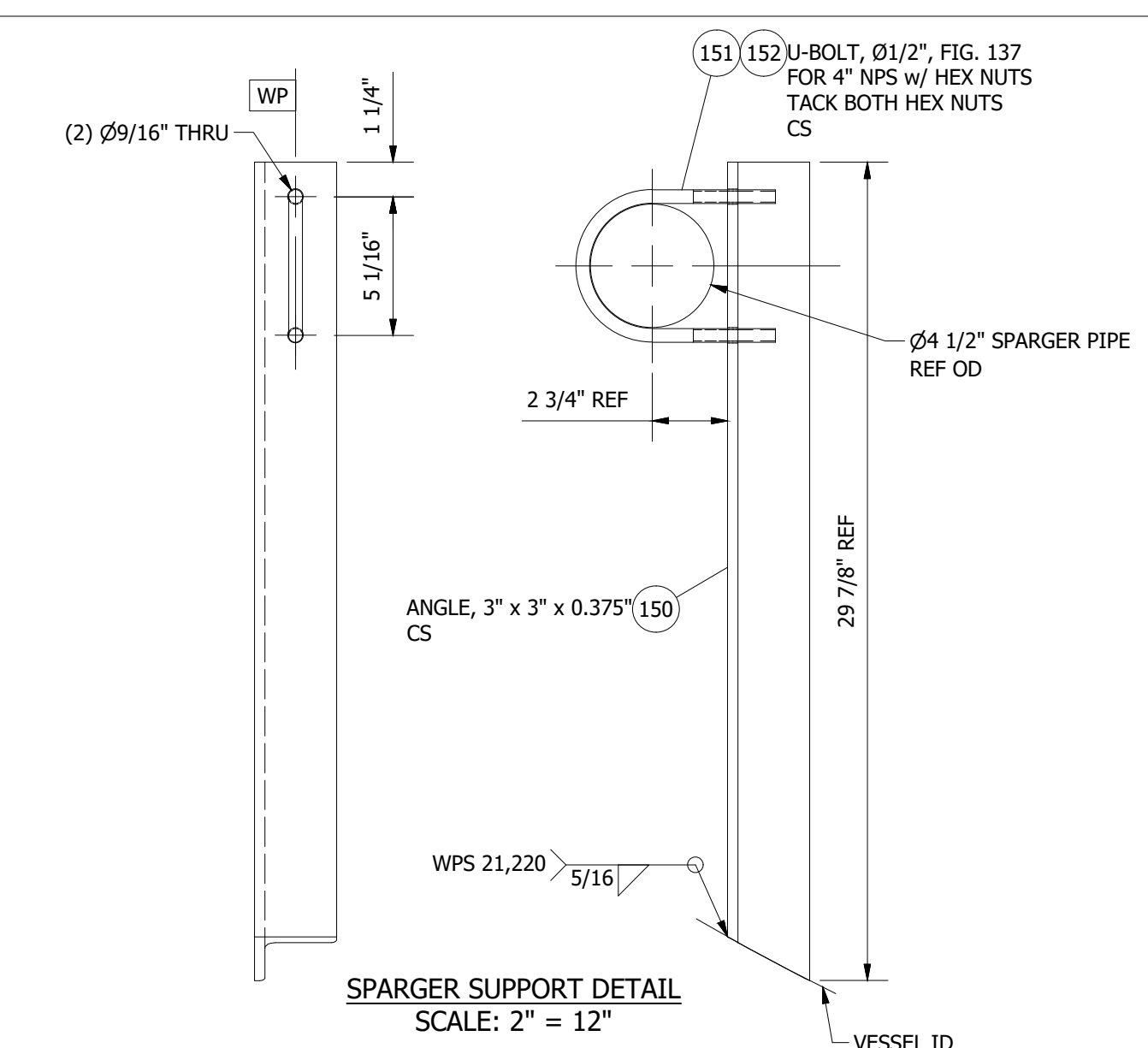
WARD TANK AND
HEAT EXCHANGER CORP.
6670 E. HARRIS BLVD.
CHARLOTTE, NC 28215

CUSTOMER	SHELL DEER PARK, TX	PURCHASE ORDER NUMBER	4527699470
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PITCH TANK WASTE HEAT RECOVERY SEPARATOR

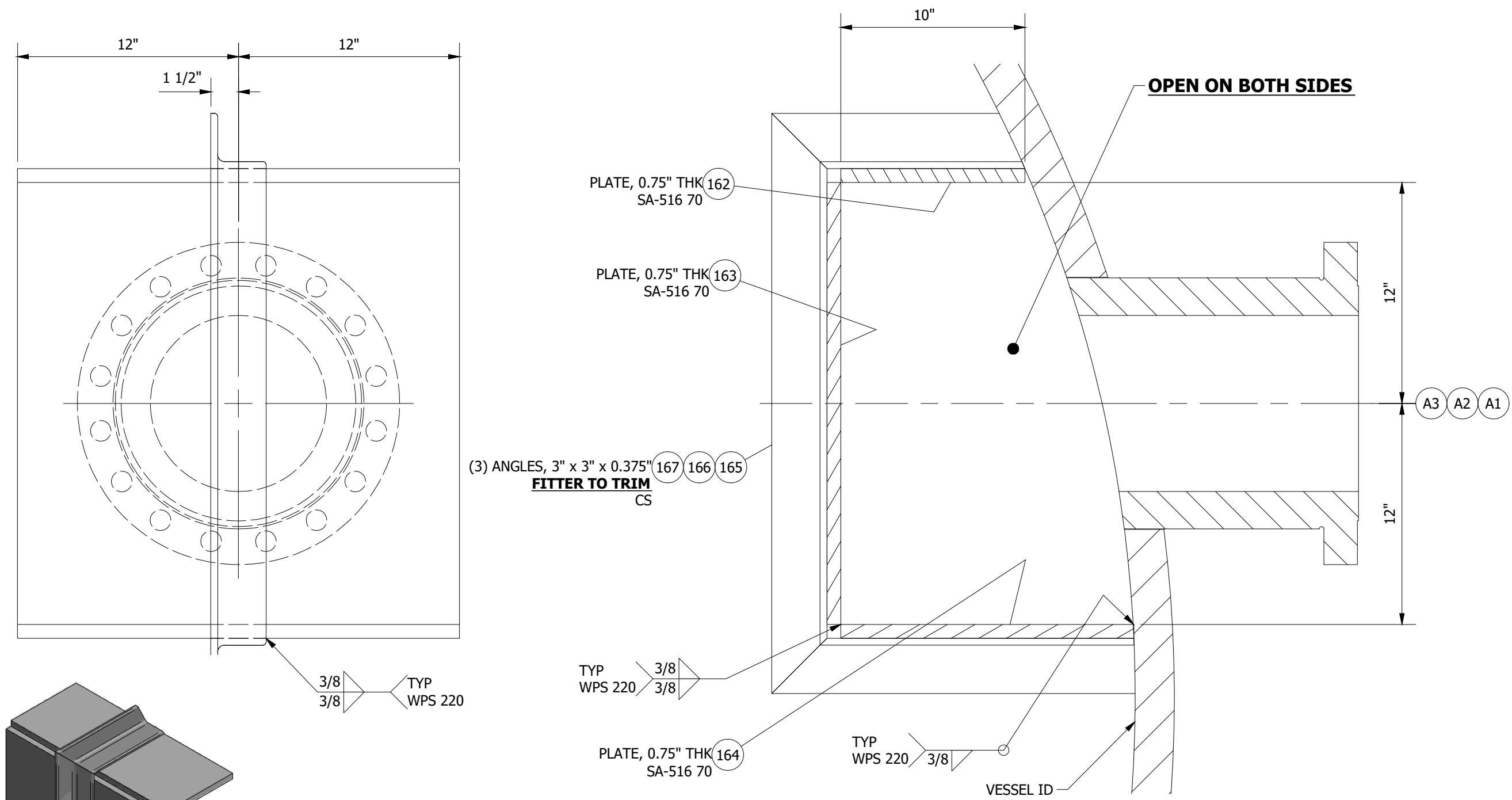
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APPROVED BY	JRW	DATE	DRAWING NUMBER		REV. NO.	3
		3/25/2019	2019-WC-10332			
DRAWN BY	DAM	DATE			2/15/2019	SHEET



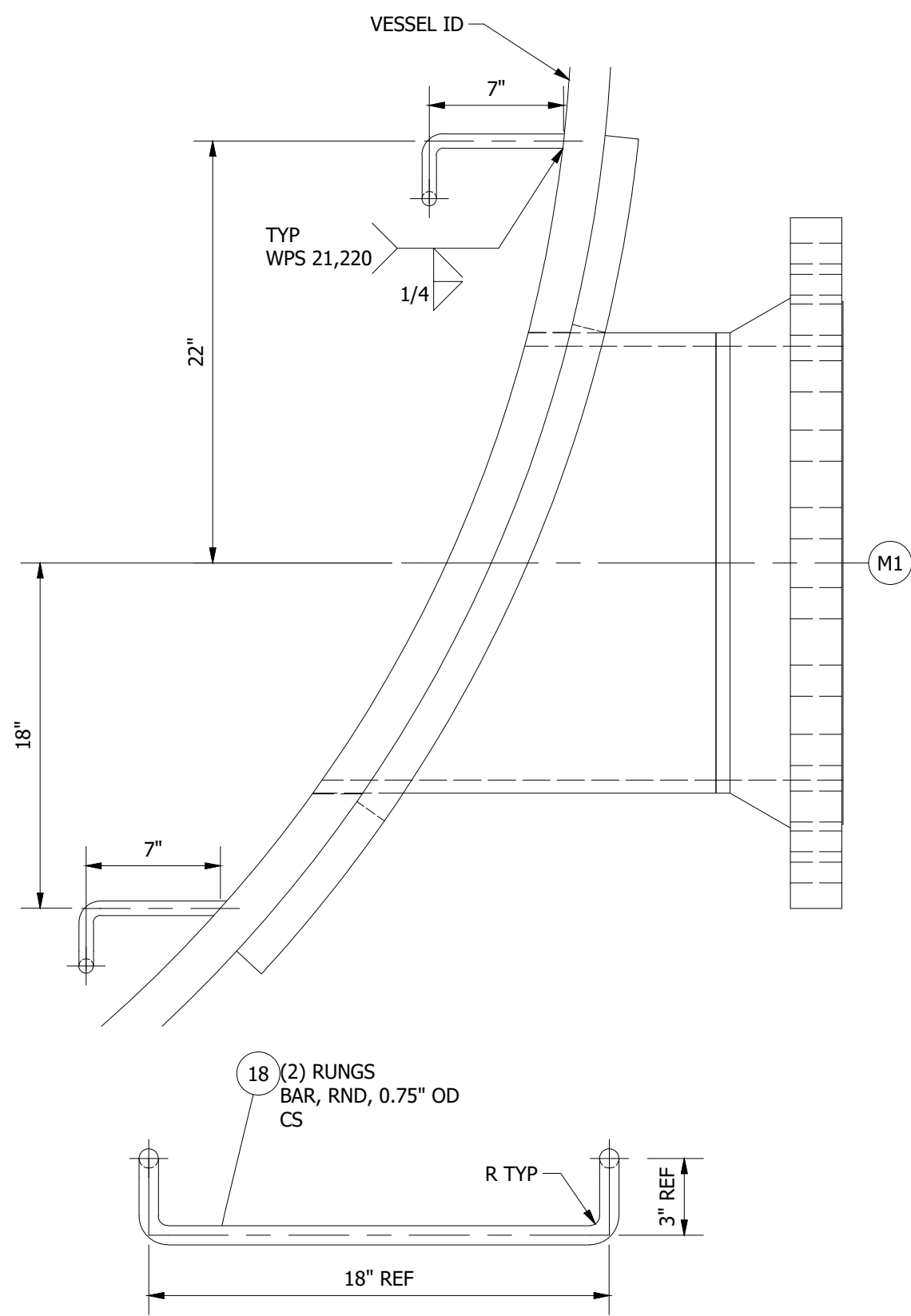


SHELL DESIGN CATEGORY 2																																																																										
MARK	PROC No	WELDER No	INSP	DATE	INSP	DATE	INSP	DATE	PROP No	WELDER No	FITTER	DATE	FITTER	DATE	QCM	DATE																																																										
			LAYOUT		FIT-UP		BACKGOUGE				FIT-UP		BACKGOUGE		FINAL NOZZLE WELDS INSIDE/OUTSIDE																																																											
NOZZLE TO SHELL JOINT									FLANGE TO NECK JOINT																																																																	
WTC QC DEPARTMENT USE ONLY																																																																										
<table><tr><td colspan="2">EQUIPMENT NO.</td><td colspan="4">VN-5820</td><td colspan="2">SHELL DESIGN</td><td colspan="4">AS NOTED</td><td colspan="2">NO REQ'D</td><td colspan="2">1</td></tr><tr><td colspan="2">APPROVED BY</td><td colspan="2">JRW</td><td colspan="2">DATE</td><td colspan="2">3/25/2019</td><td colspan="4">DRAWING NUMBER</td><td colspan="2">REV. NO.</td><td colspan="2">3</td></tr><tr><td colspan="2">DRAWN BY</td><td colspan="2">DAM</td><td colspan="2">DATE</td><td colspan="2">2/15/2019</td><td colspan="4" rowspan="2">2019-WC-10332</td><td colspan="2">SHEET</td><td colspan="2">2 OF 4</td></tr><tr><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td></tr></table>																	EQUIPMENT NO.		VN-5820				SHELL DESIGN		AS NOTED				NO REQ'D		1		APPROVED BY		JRW		DATE		3/25/2019		DRAWING NUMBER				REV. NO.		3		DRAWN BY		DAM		DATE		2/15/2019		2019-WC-10332				SHEET		2 OF 4											
EQUIPMENT NO.		VN-5820				SHELL DESIGN		AS NOTED				NO REQ'D		1																																																												
APPROVED BY		JRW		DATE		3/25/2019		DRAWING NUMBER				REV. NO.		3																																																												
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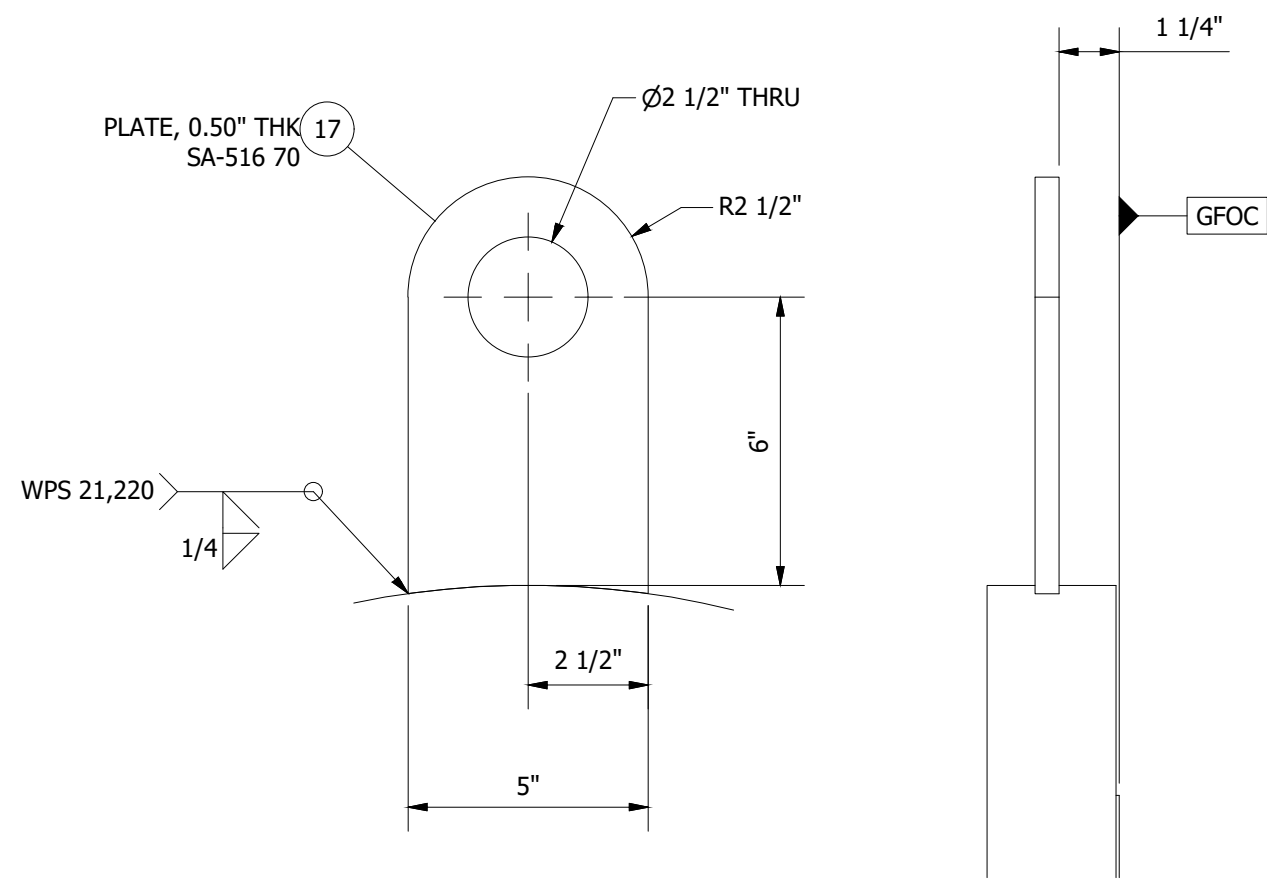
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DRAWN BY	DAM	DATE 2/15/2019		SHEET 2 OF 4



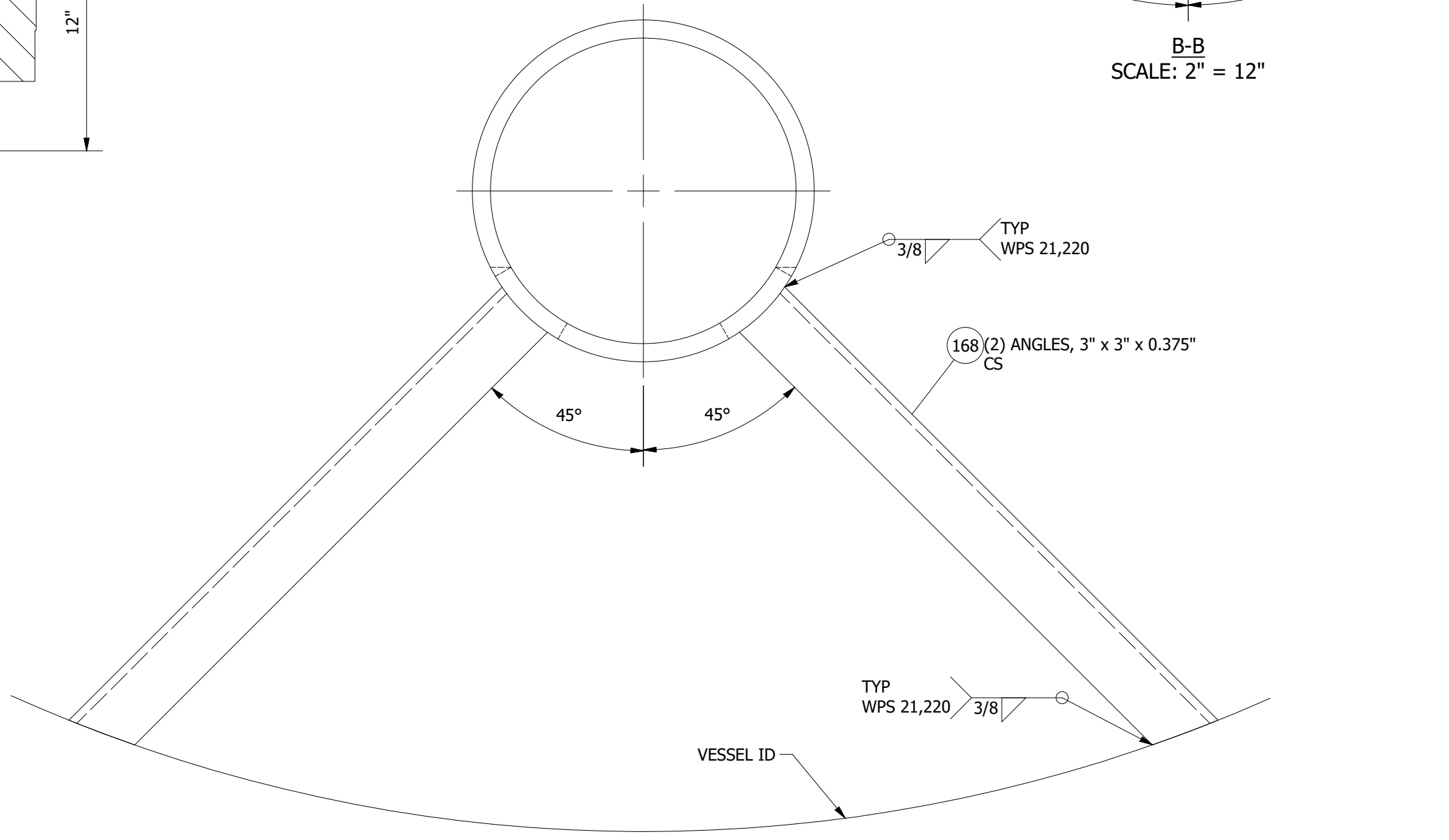
BAFFLE ASSEMBLY / DETAIL
TYP (3) PLACES
SCALE: 2" = 12"



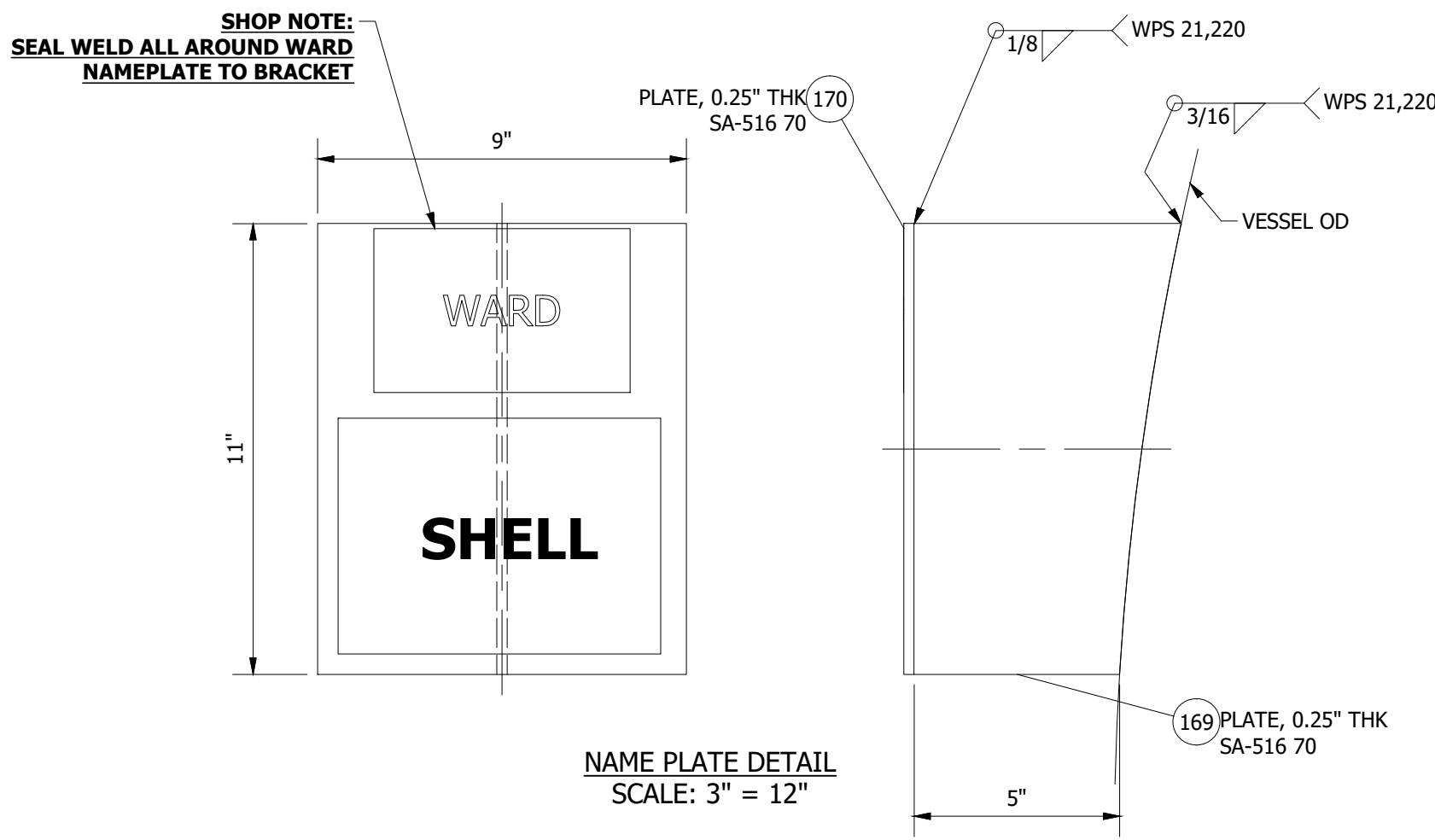
INTERNAL RUNG DETAIL
SCALE: 1 1/2" = 12"



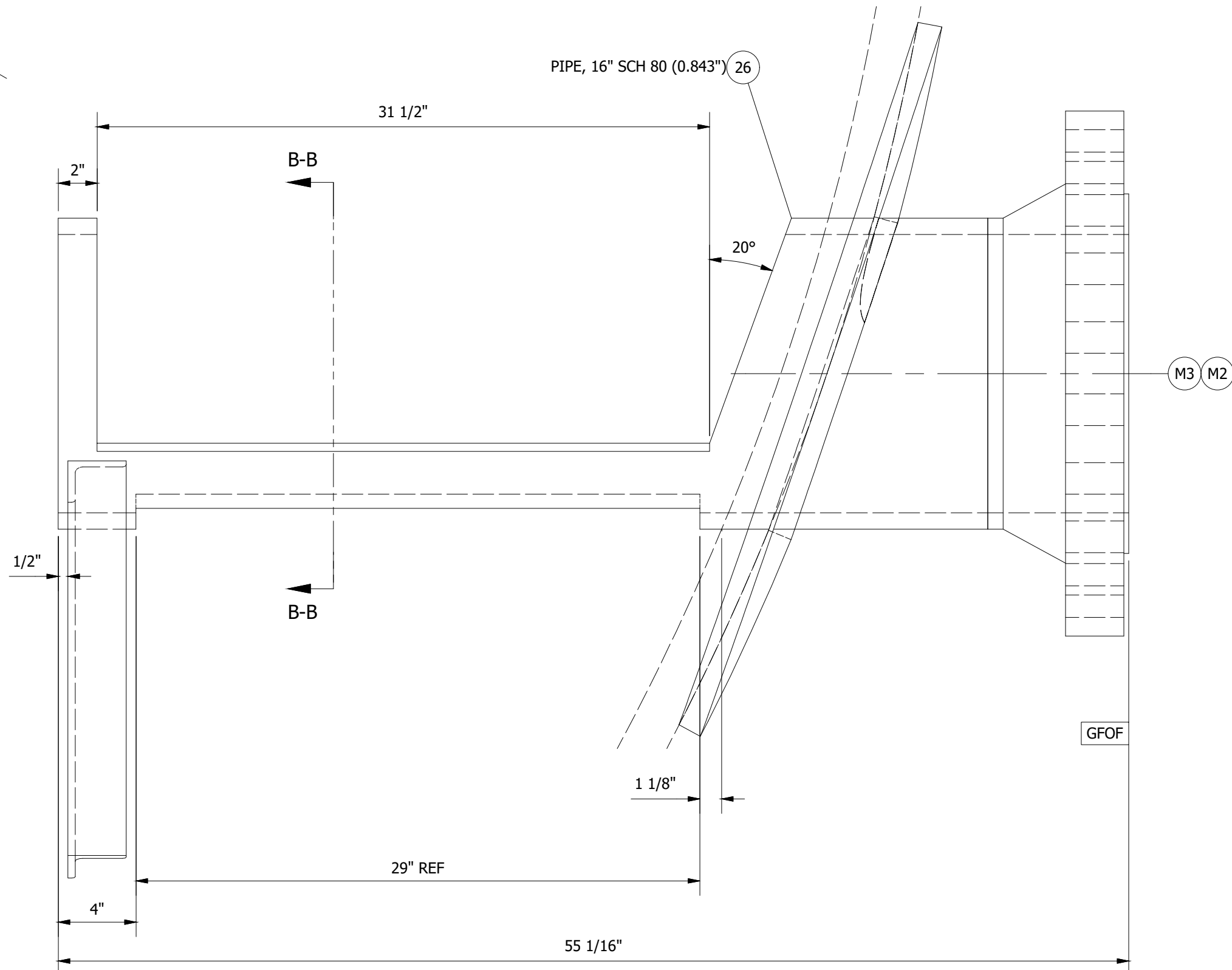
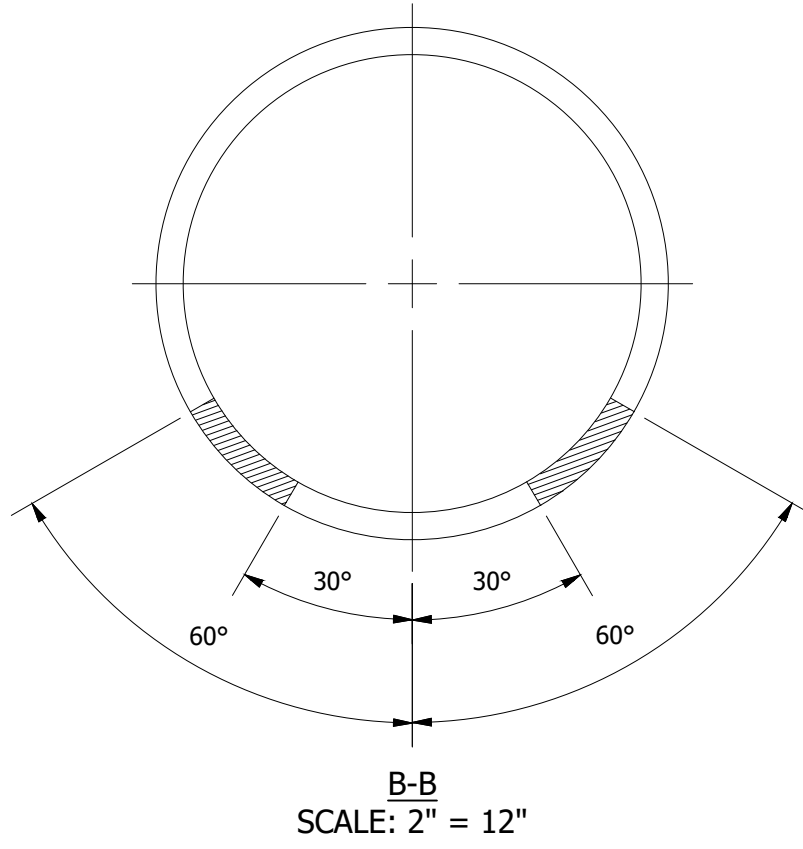
NOZ 'M1' COVER LIFTING LUG DETAIL
SCALE: 3" = 12"



DRUM HEATER SUPPORT ASSEMBLY / DETAIL
TYP (2) PLACES
SCALE: 2" = 12"



NAME PLATE DETAIL
SCALE: 3" = 12"



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PROJECT: 03541 HOT PITCH TANK

3	5/17/2019	REVISED DEMISTER TABS, ADDED TORQUE NOTE	DAM
2	4/16/2019	REVISED LONG SEAM ORIENTATIONS, LIFTING LUGS, MOVED NOZ 'Z', EARTH BOSSES	DAM
1	3/25/2019	REVISED PER CUSTOMER COMMENTS / RELEASED FOR FABRICATION	DAM
0	3/1/2019	FOR CUSTOMER APPROVAL	JRW
REV	DATE	DESCRIPTION	APPROVED

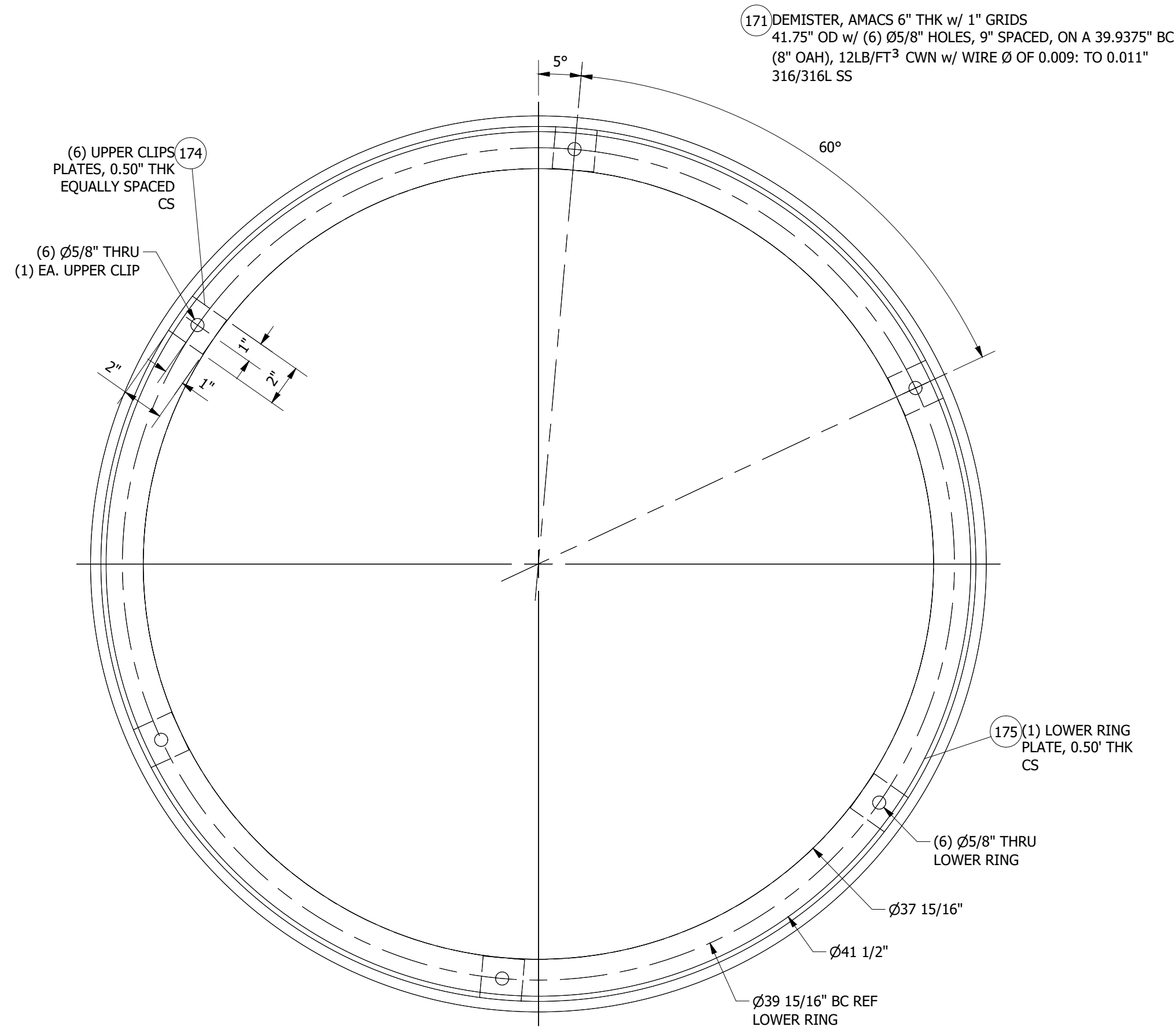
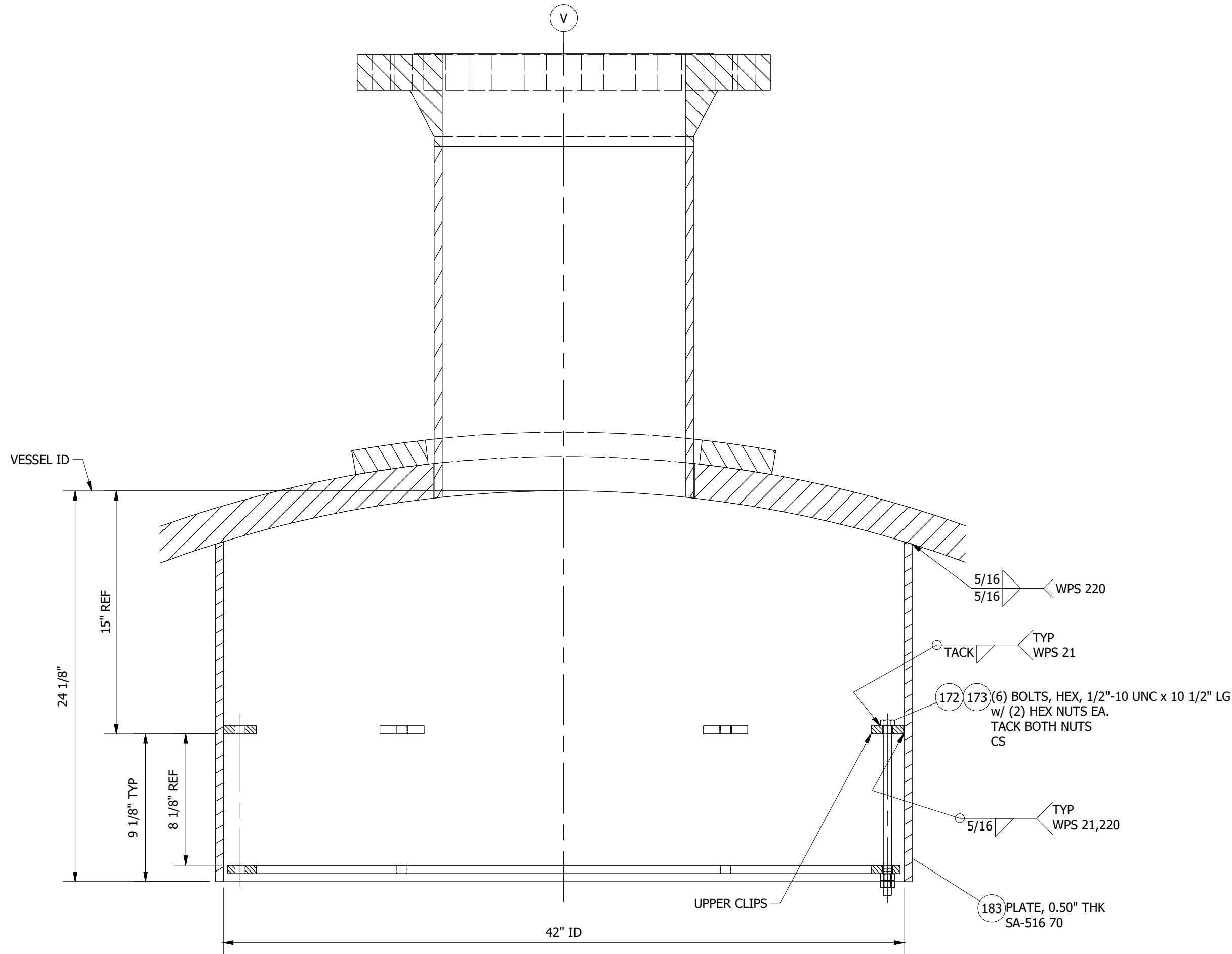
THIS DRAWING IS THE PROPERTY OF WARD TANK AND HEAT EXCHANGER CORP ("WARD") AND THE BELOW NAMED CUSTOMER. THIS DRAWING IS ONLY TO BE USED IN REFERENCE TO WORK PROPOSED OR CONTRACTED BY EITHER WARD OR THE BELOW NAMED CUSTOMER AND ITS AFFILIATES AND/OR ON BEHALF OF WARD OR THE BELOW NAMED CUSTOMER AND ITS AFFILIATES. IT MUST NOT BE REPRODUCED OR SUBMITTED TO OUTSIDE PARTIES WITHOUT THE WRITTEN PERMISSION FROM WARD OR FROM THE BELOW NAMED CUSTOMER.



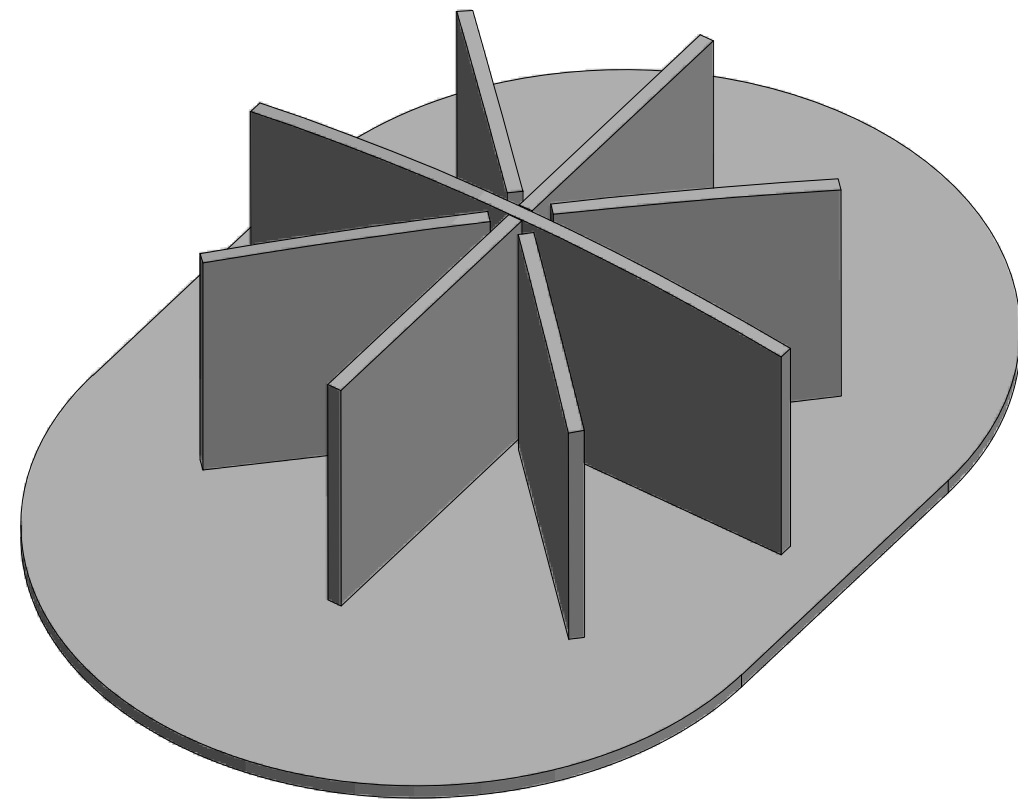
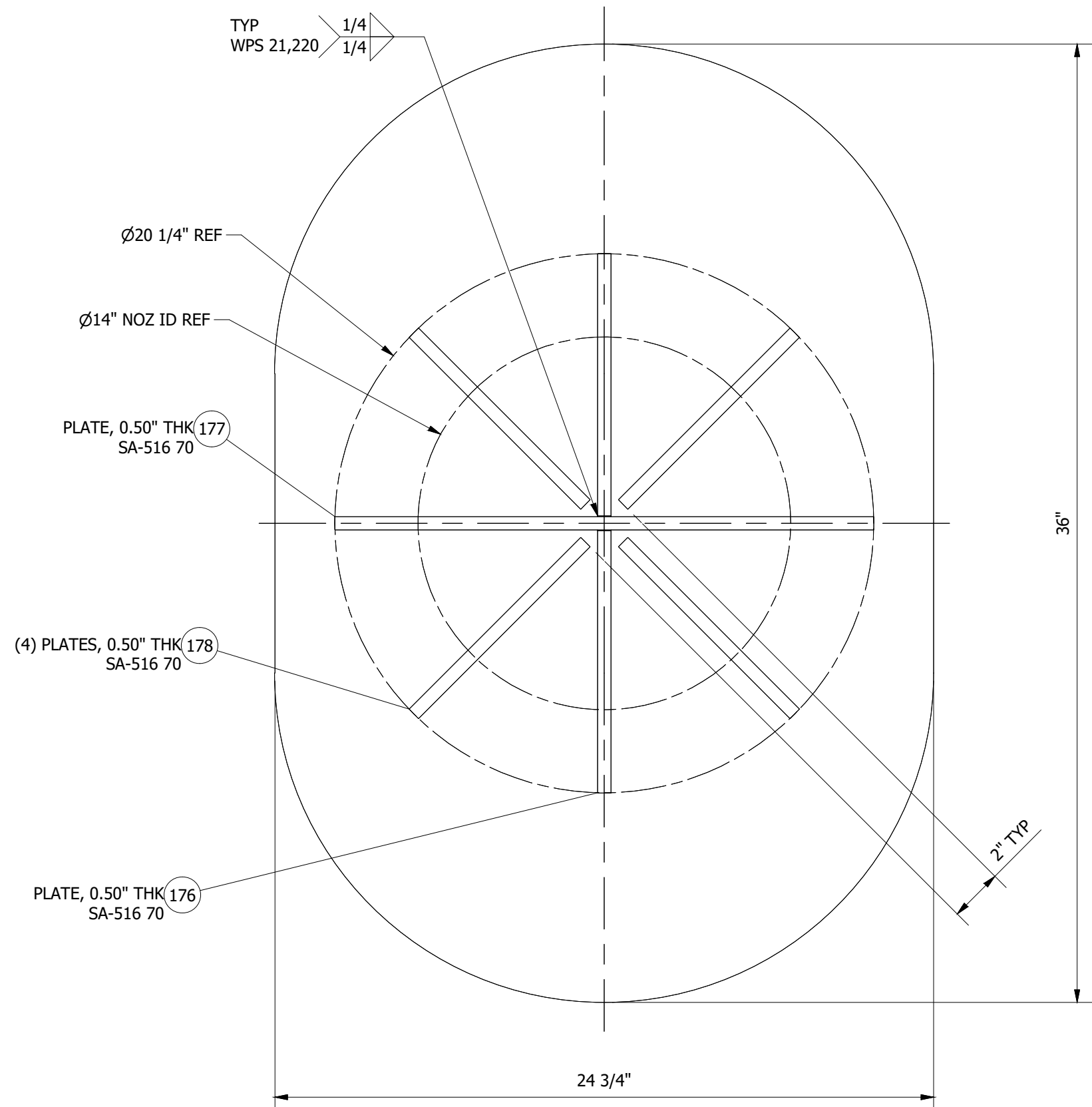
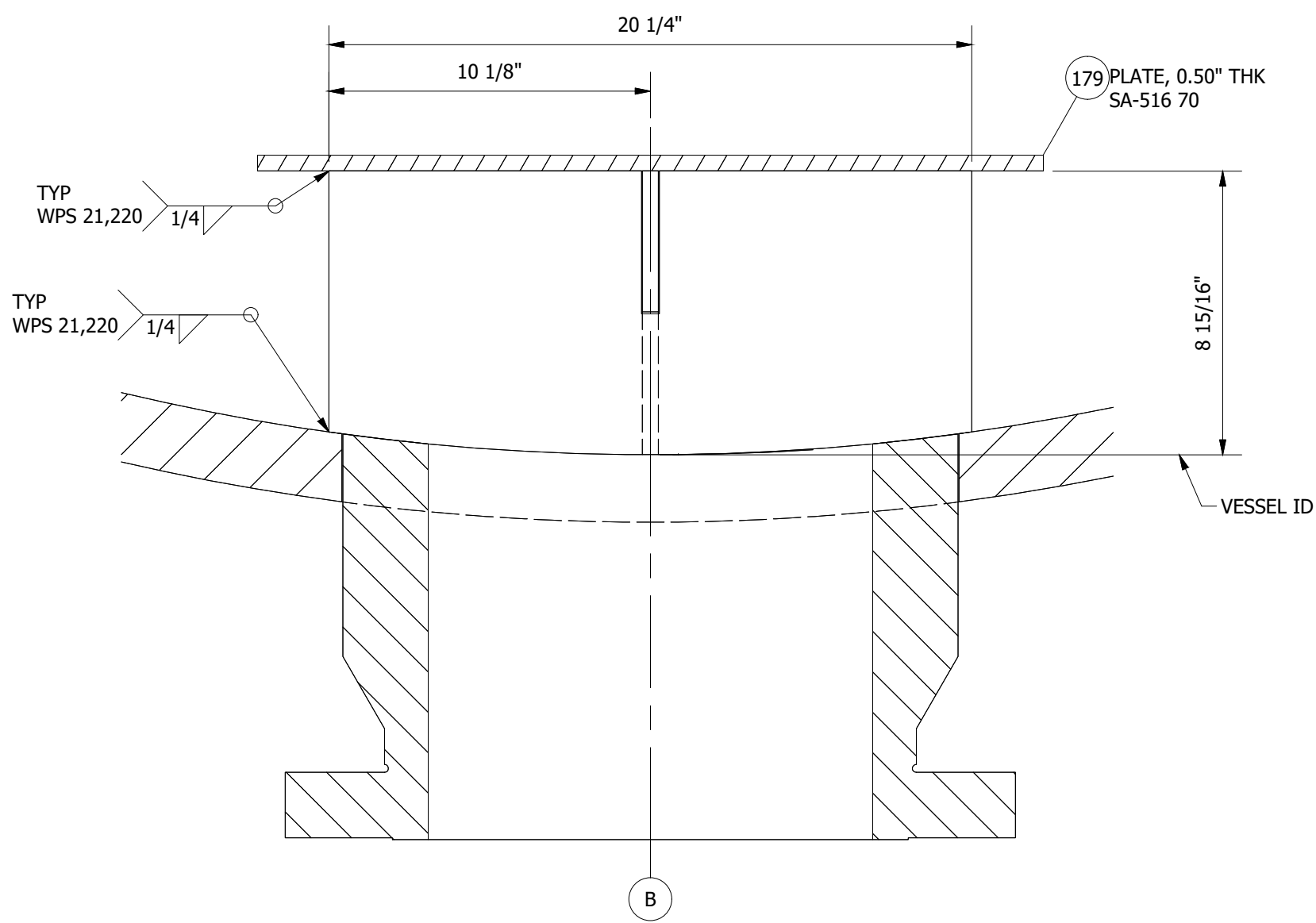
CUSTOMER	SHELL DEER PARK, TX	PURCHASE ORDER NUMBER	4527699470
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TITLE	PITCH TANK WASTE HEAT RECOVERY SEPARATOR SHELL DESIGN CATEGORY 2
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EQUIPMENT NO.	VN-5820	SCALE	AS NOTED	NO REQ'D	1
APPROVED BY	JRW	DATE	3/25/2019	DRAWING NUMBER	REV. NO. 3
DRAWN BY	DAM	DATE	2/15/2019	2019-WC-10332	SHEET 3 OF 4



DEMISTER SUPPORT DETAIL
SCALE: 2 1/4" = 12"



CERTIFIED/SHOP PRINT
WARD TANK AND
HEAT EXCHANGER CORP
By: JRW
Date: 3/25/2019

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PROJECT: 03541 HOT PITCH TANK

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REV	DATE	DESCRIPTION	APPROVED

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WARD TANK AND
HEAT EXCHANGER CORP
6670 E. HARRIS BLVD.
CHARLOTTE, NC 28215

CUSTOMER SHELL
DEER PARK, TX
PURCHASE ORDER NUMBER 4527699470

TITLE PITCH TANK WASTE HEAT RECOVERY SEPARATOR
SHELL DESIGN CATEGORY 2

EQUIPMENT NO.	VN-5820	SCALE	AS NOTED	NO REQ'D	1
APPROVED BY	JRW	DATE	3/25/2019	DRAWING NUMBER	REV. NO. 3
DRAWN BY	DAM	DATE	2/15/2019	2019-WC-10332	SHEET 4 OF 4

