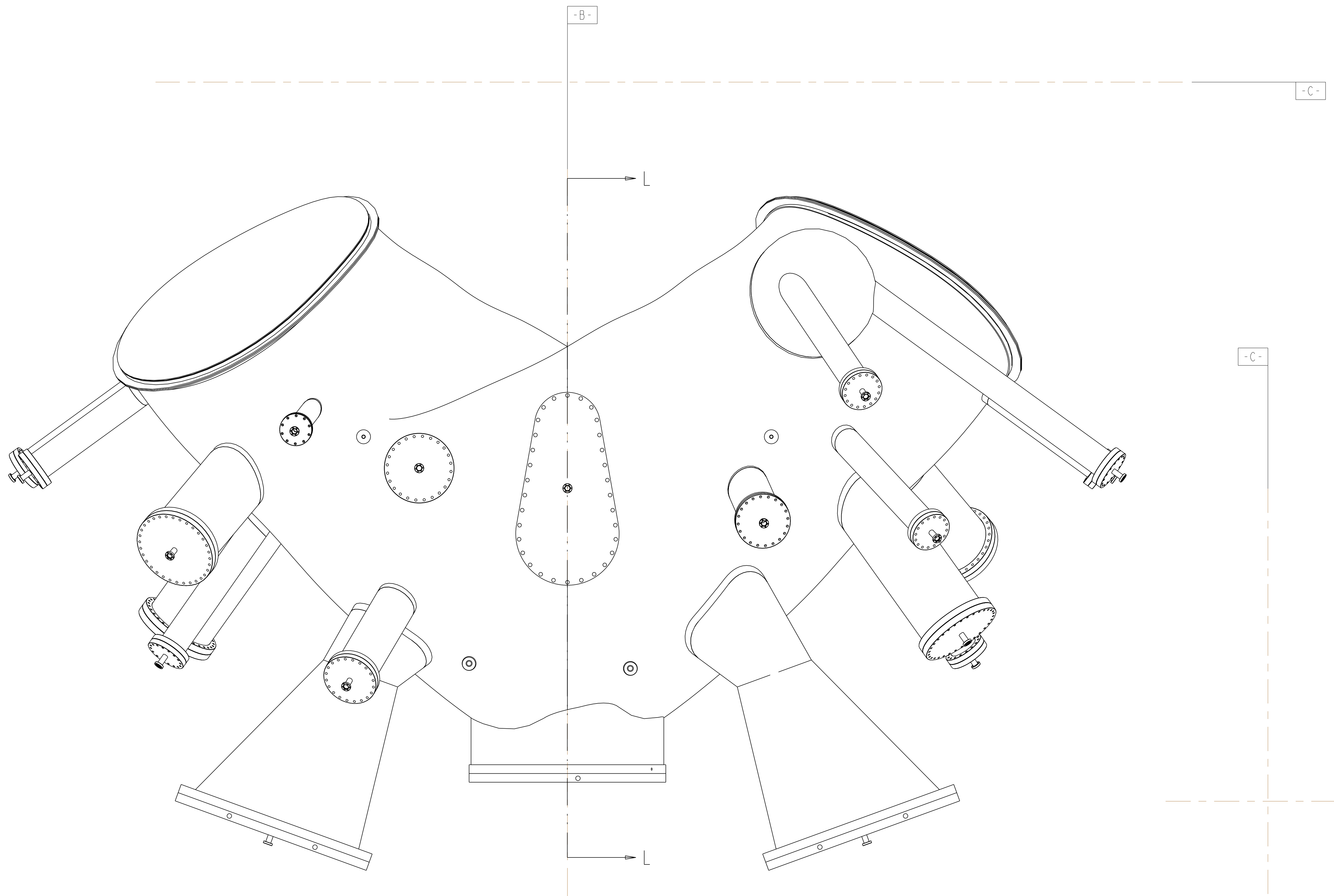
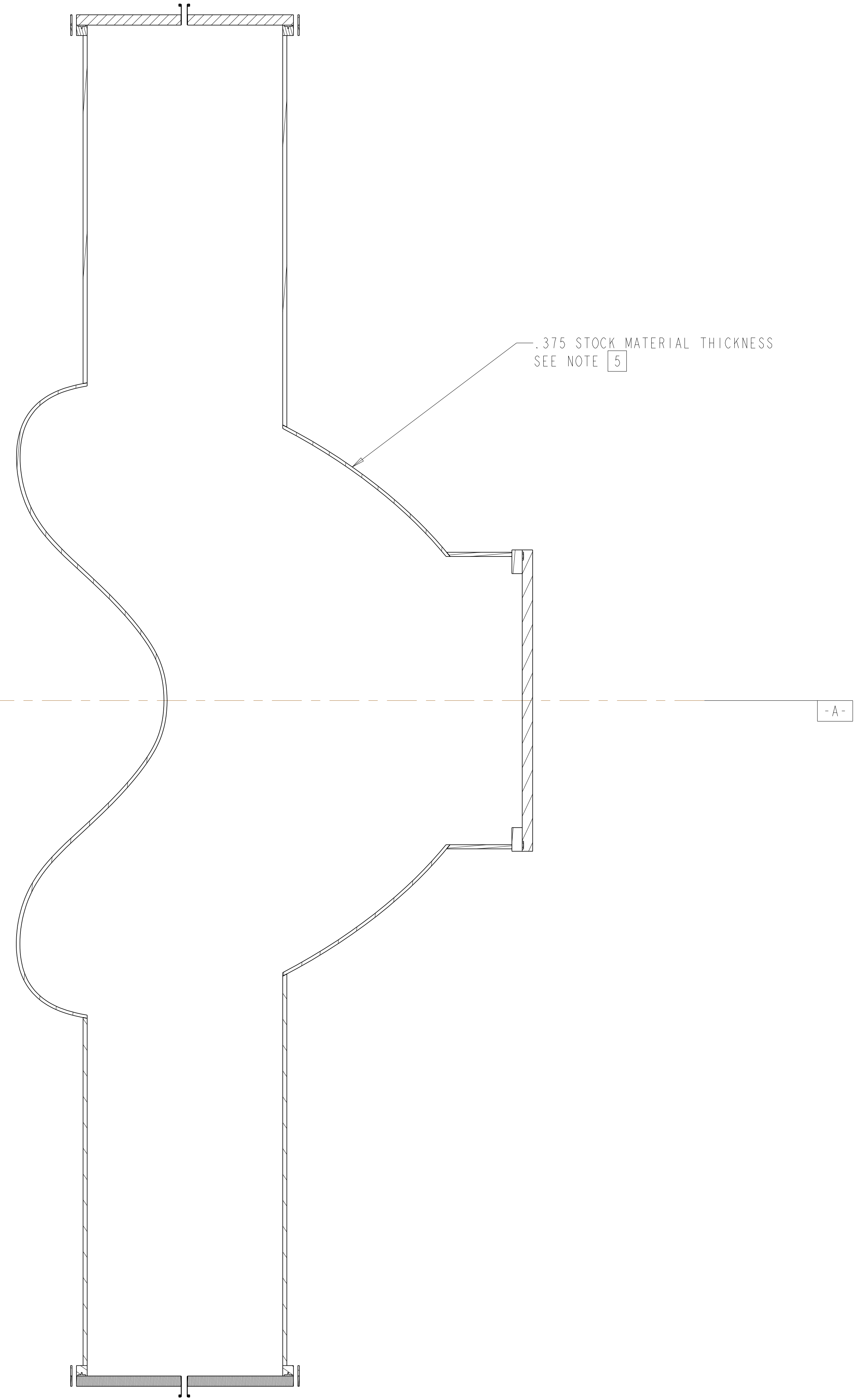




FOR NOTES AND PARTS LIST SEE SHEET 1



TOP VIEW



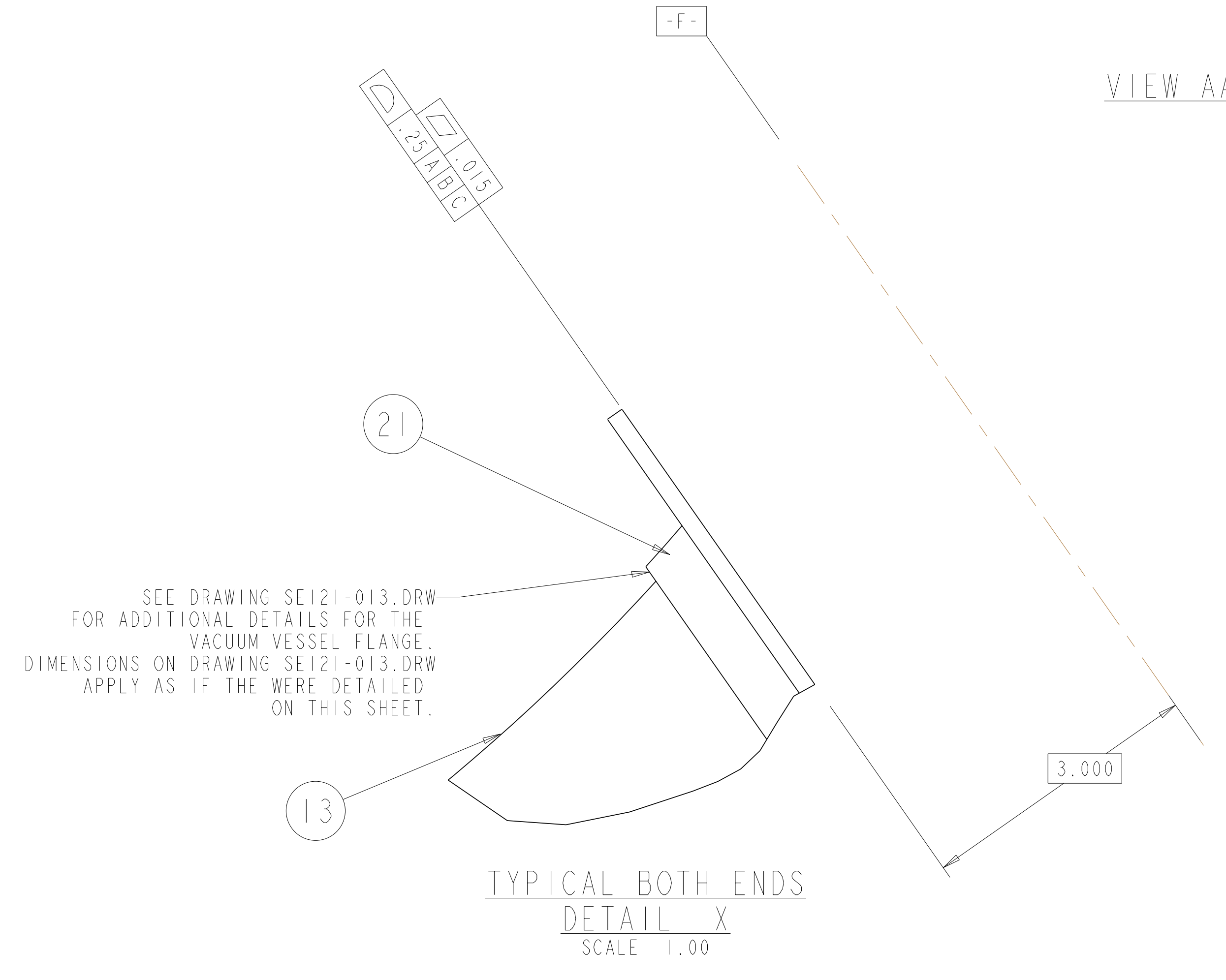
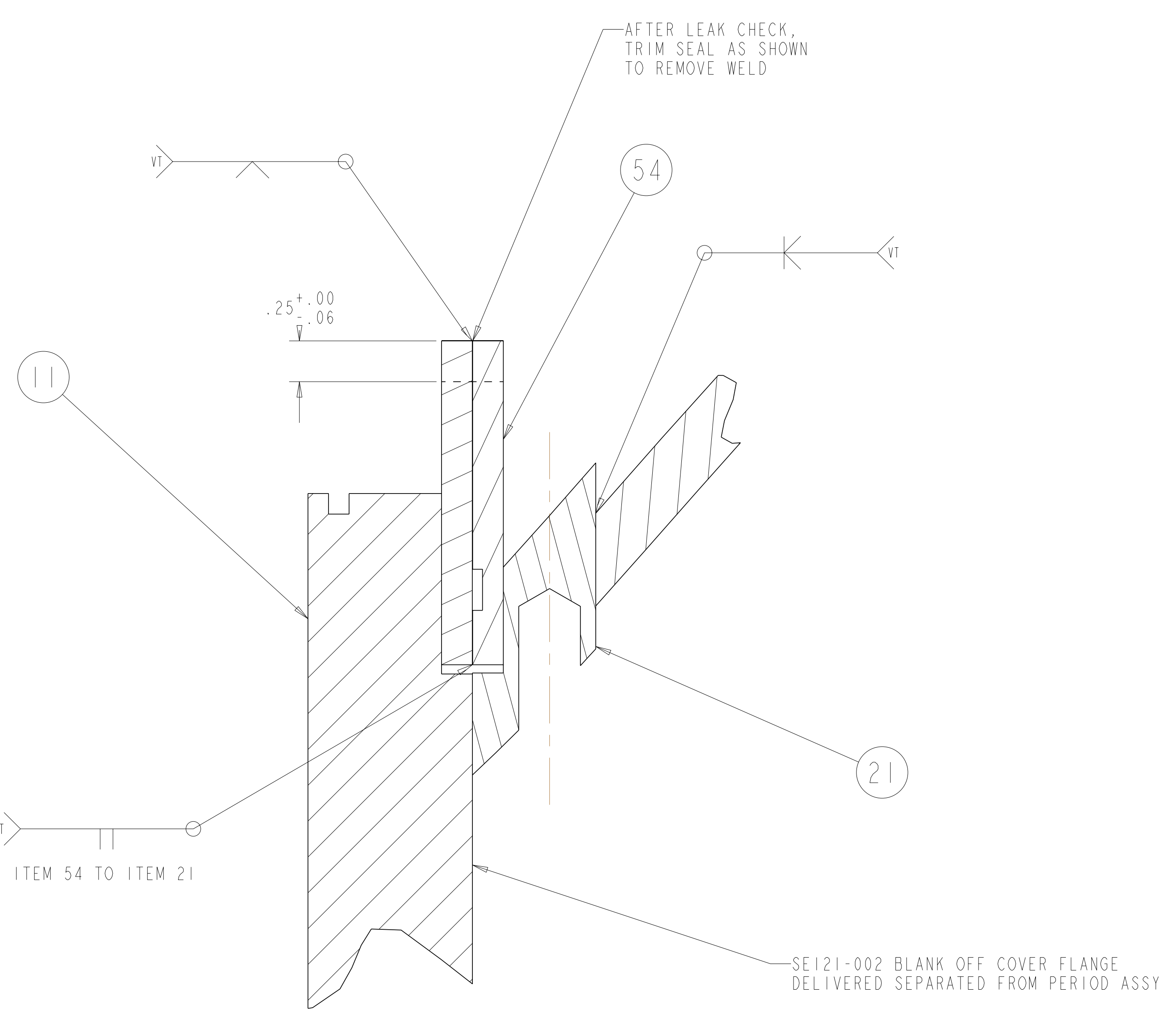
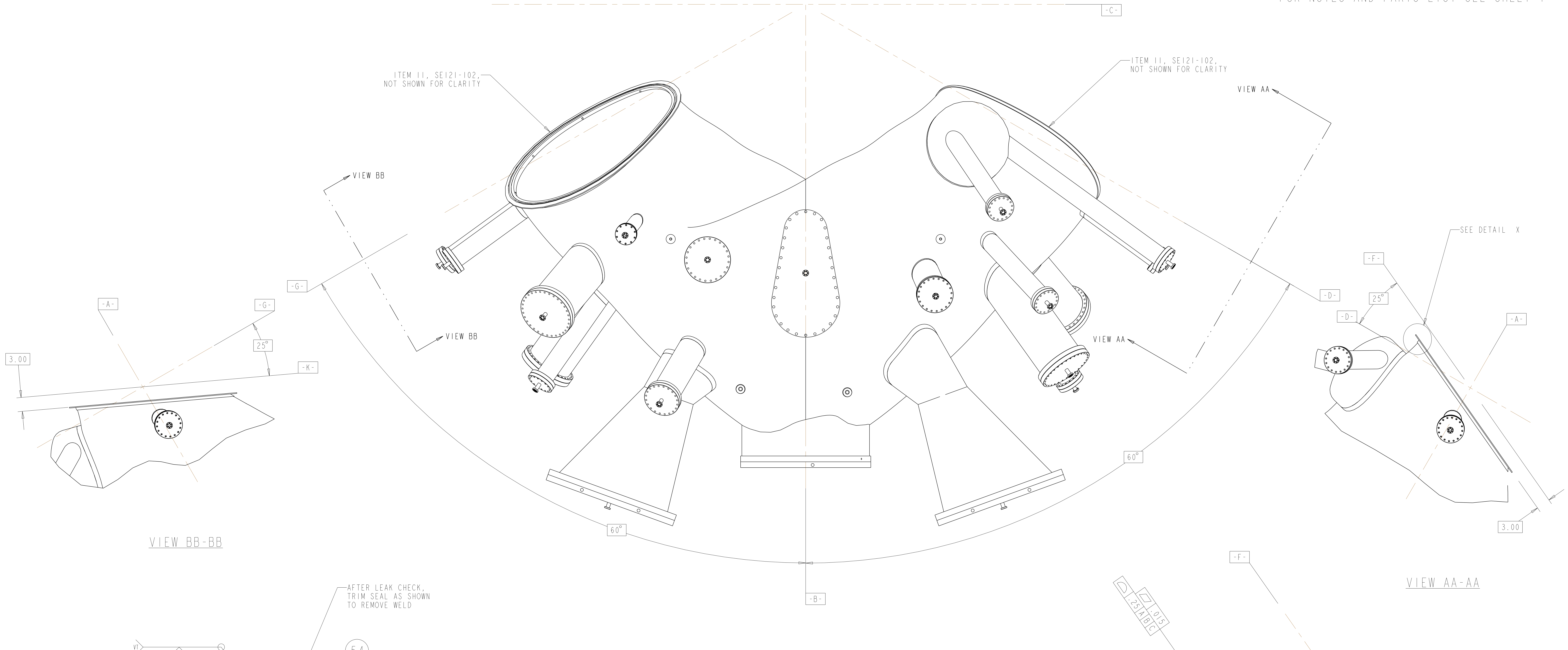
SECTION L-L  
 VESSEL THICKNESS

<b>UT-BATTELLE</b>		Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC, Oak Ridge, Tennessee					
PROJECT NAME							
<b>NATIONAL COMPACT STELLERATOR EXPERIMENT</b>							
<b>VACUUM VESSEL</b>							
<b>PERIOD INSPECTION AND LEAK CHECK</b>							
<b>ASSEMBLY</b>							
VERSION NO.	PLANT	BLDG	FL	SHT OF	TYPE	CLASS	
1	X-10	5700	3	2 19	A	U	
RELEASE LEVEL		SE120-004				REV	
WIP						2	

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SE120-004

FOR NOTES AND PARTS LIST SEE SHEET 1

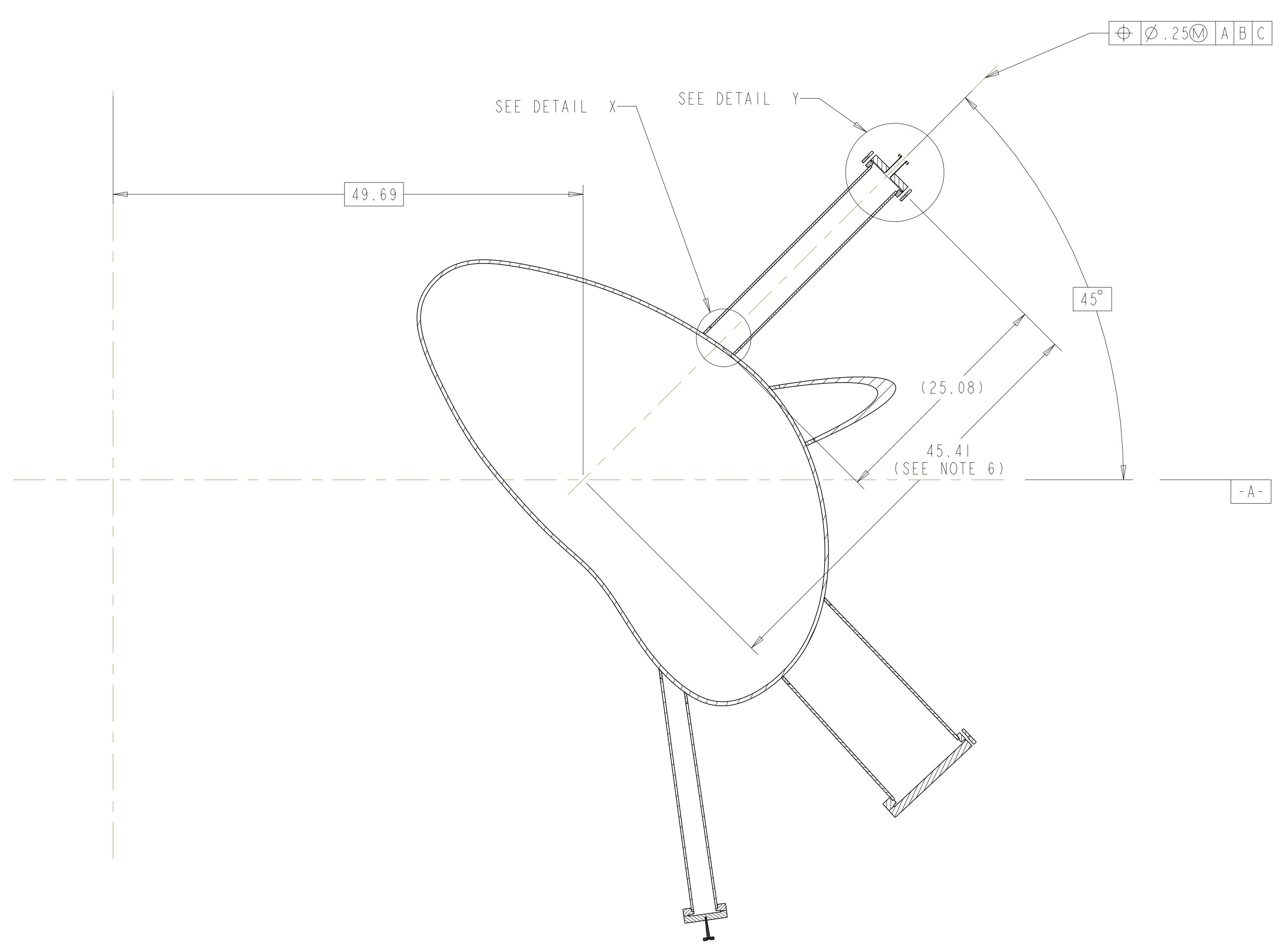
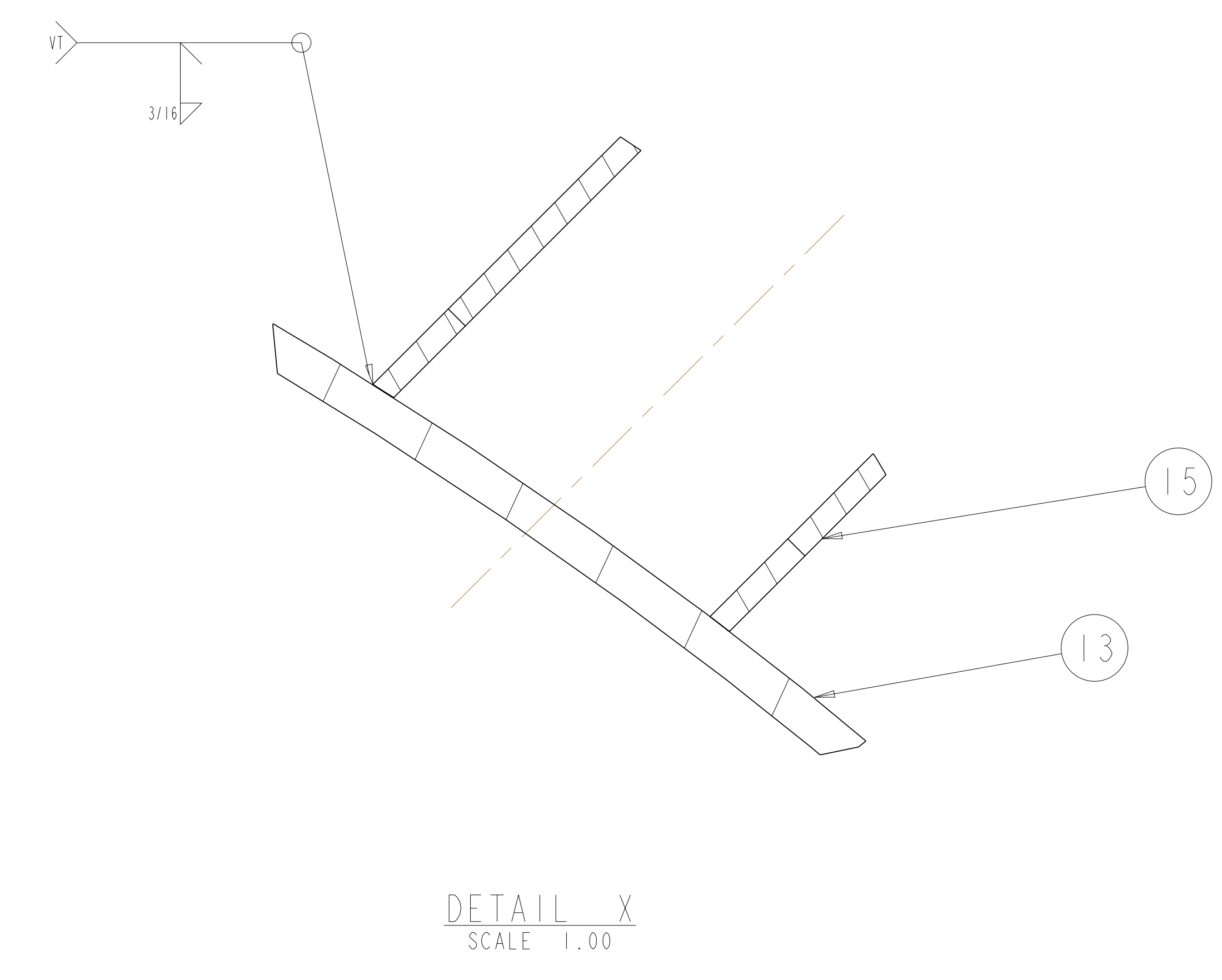
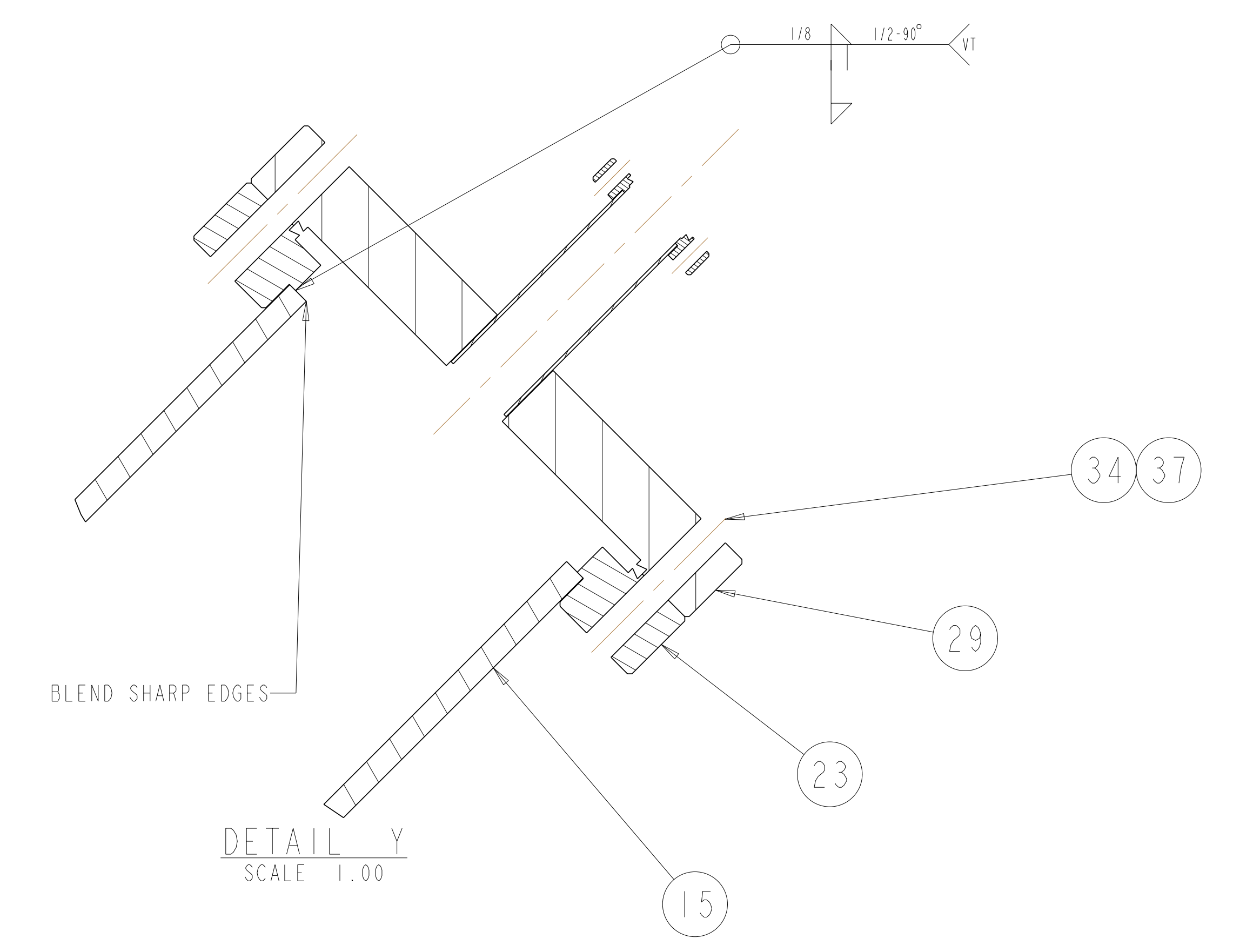
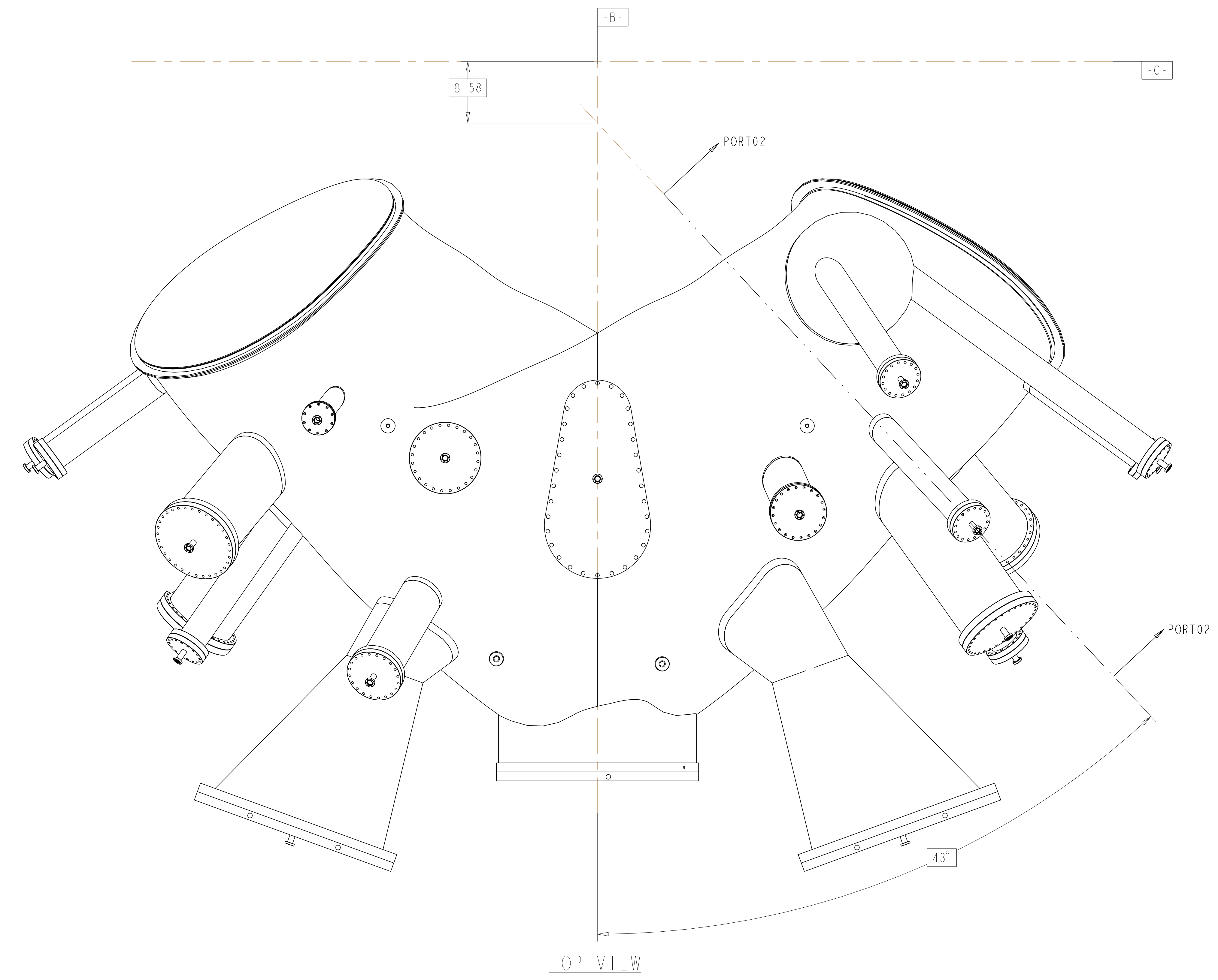


UT-BATTELLE		Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC, Oak Ridge, Tennessee					
PROJECT NAME							A
NATIONAL COMPACT STELLARATOR EXPERIMENT							
VACUUM VESSEL							
PERIOD INSPECTION AND LEAK CHECK							
ASSEMBLY							
VERSION NO.	PLANT	BLDG	FL	SHT OF	TYPE	CLASS	
1	X-10	5700	3	3 19	A	U	
RELEASE LEVEL	WIP					SE120-004	REV 2

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FOR PARTS LIST AND NOTES SEE SHEET 1.



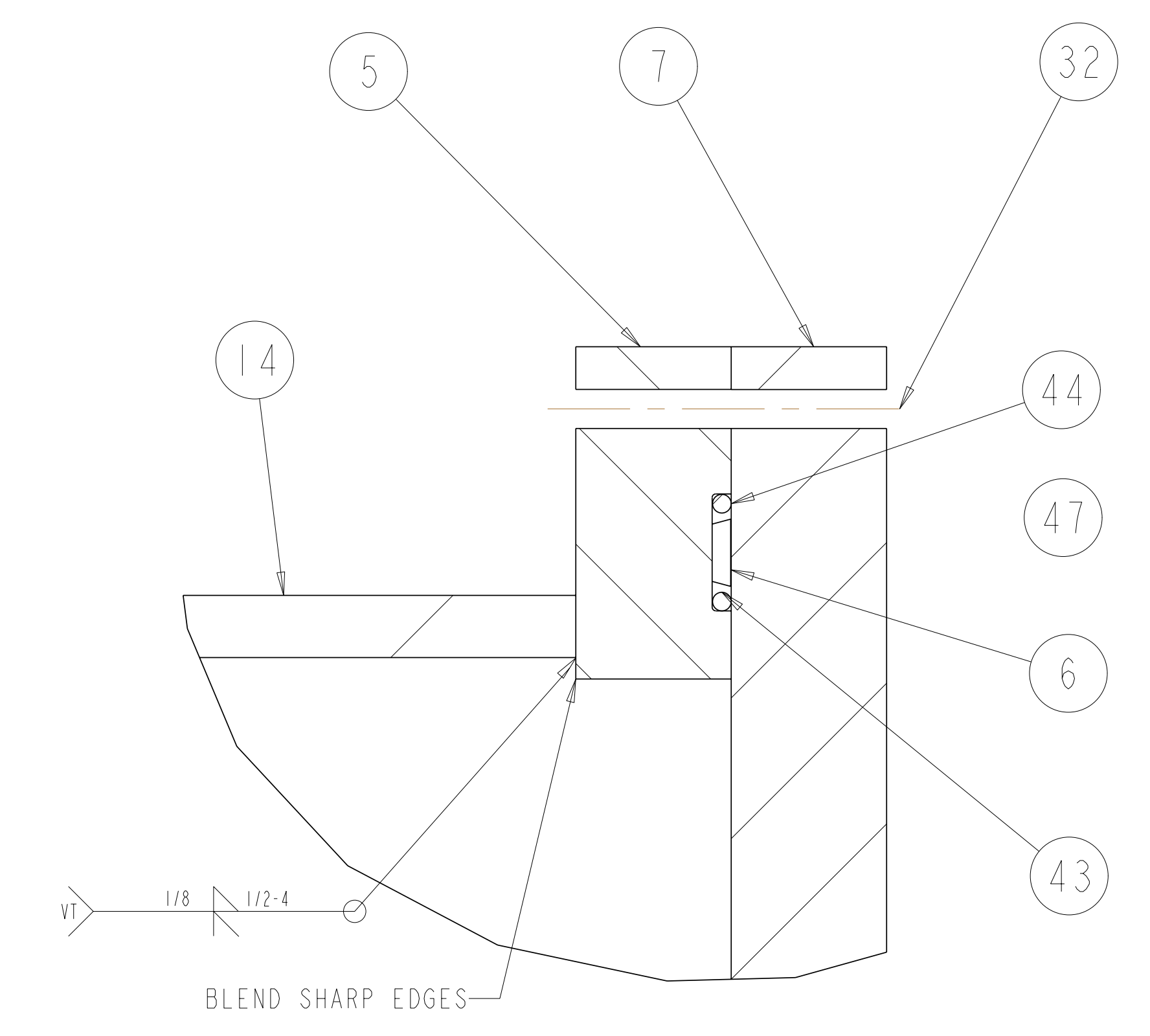
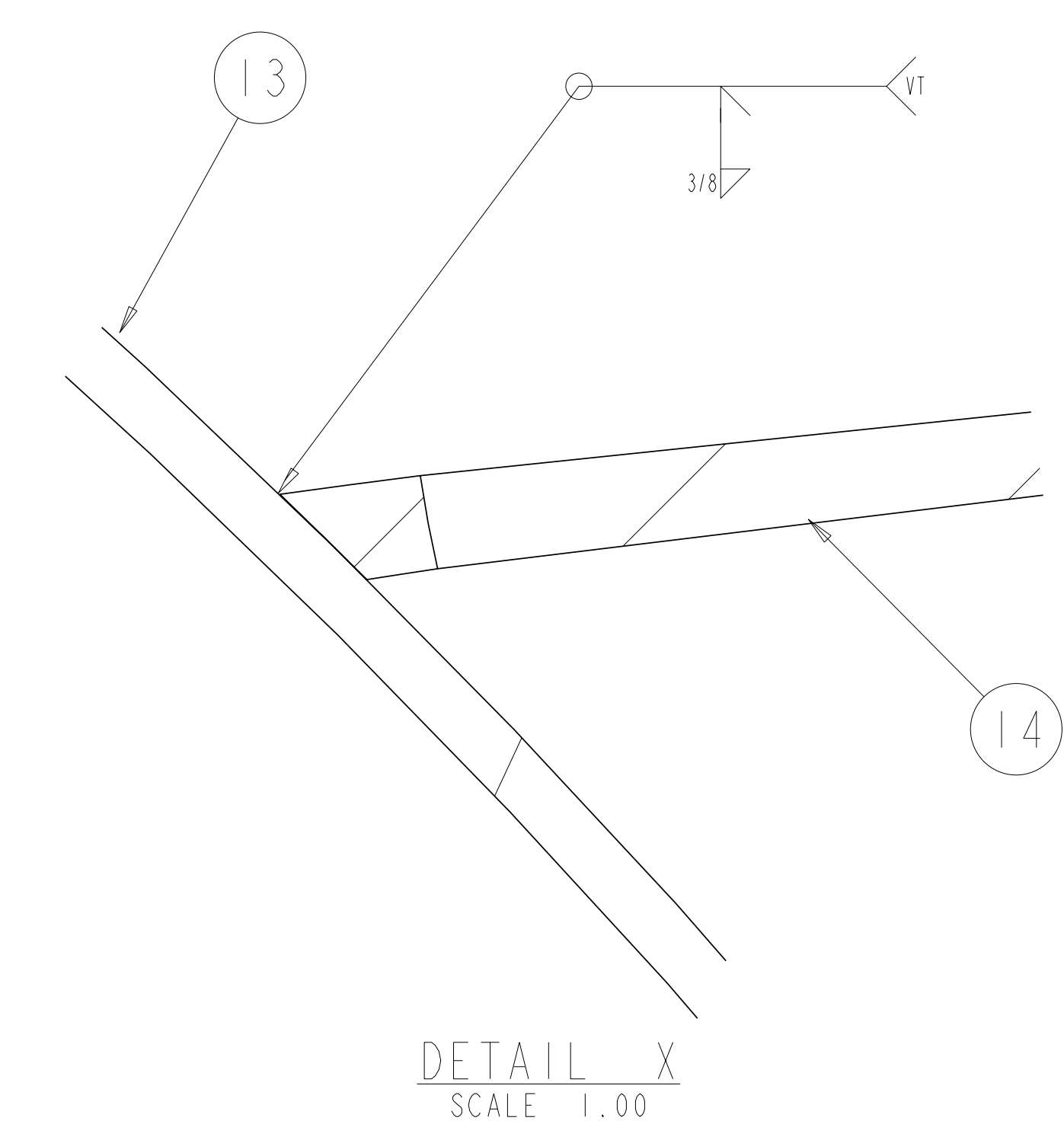
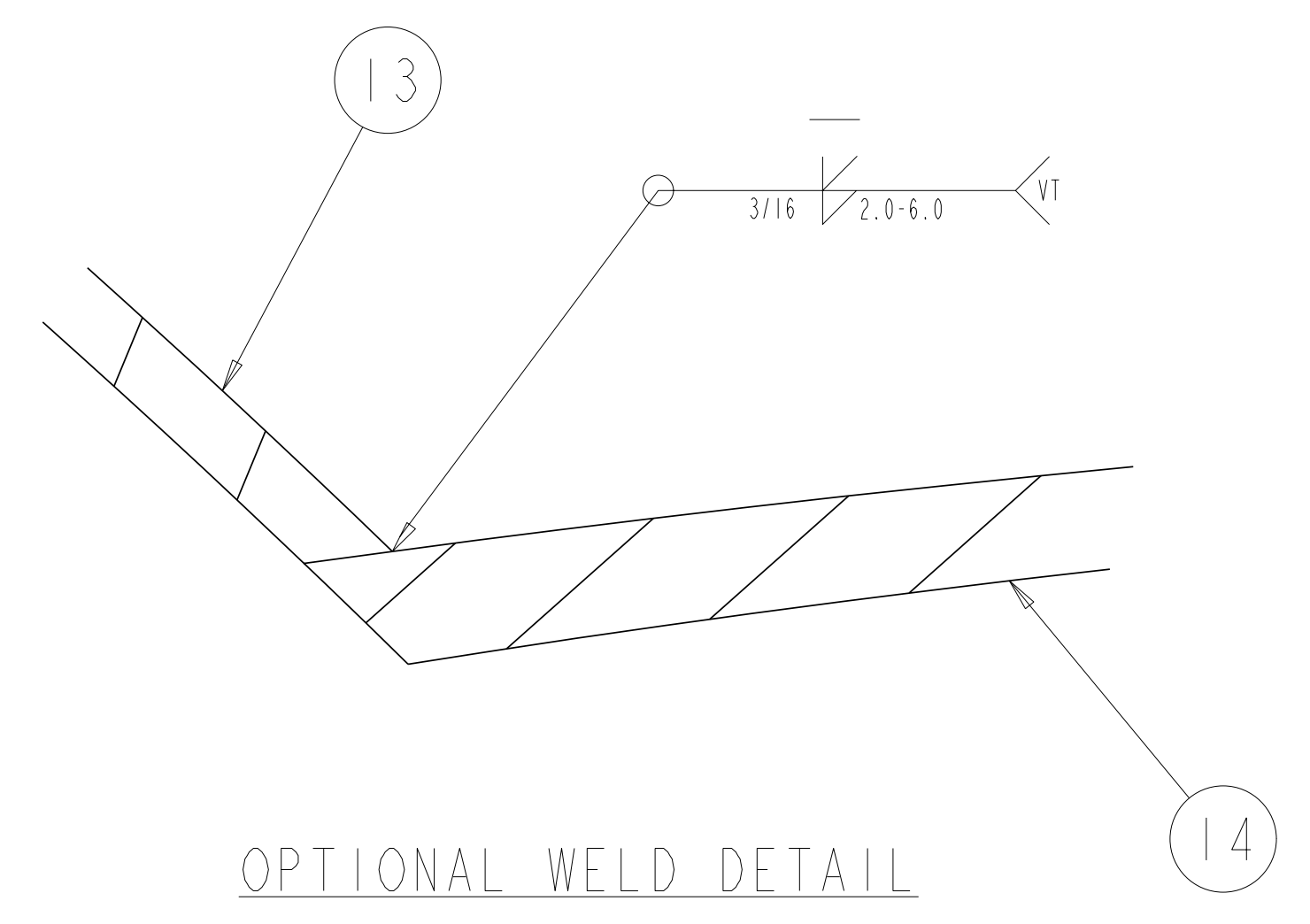
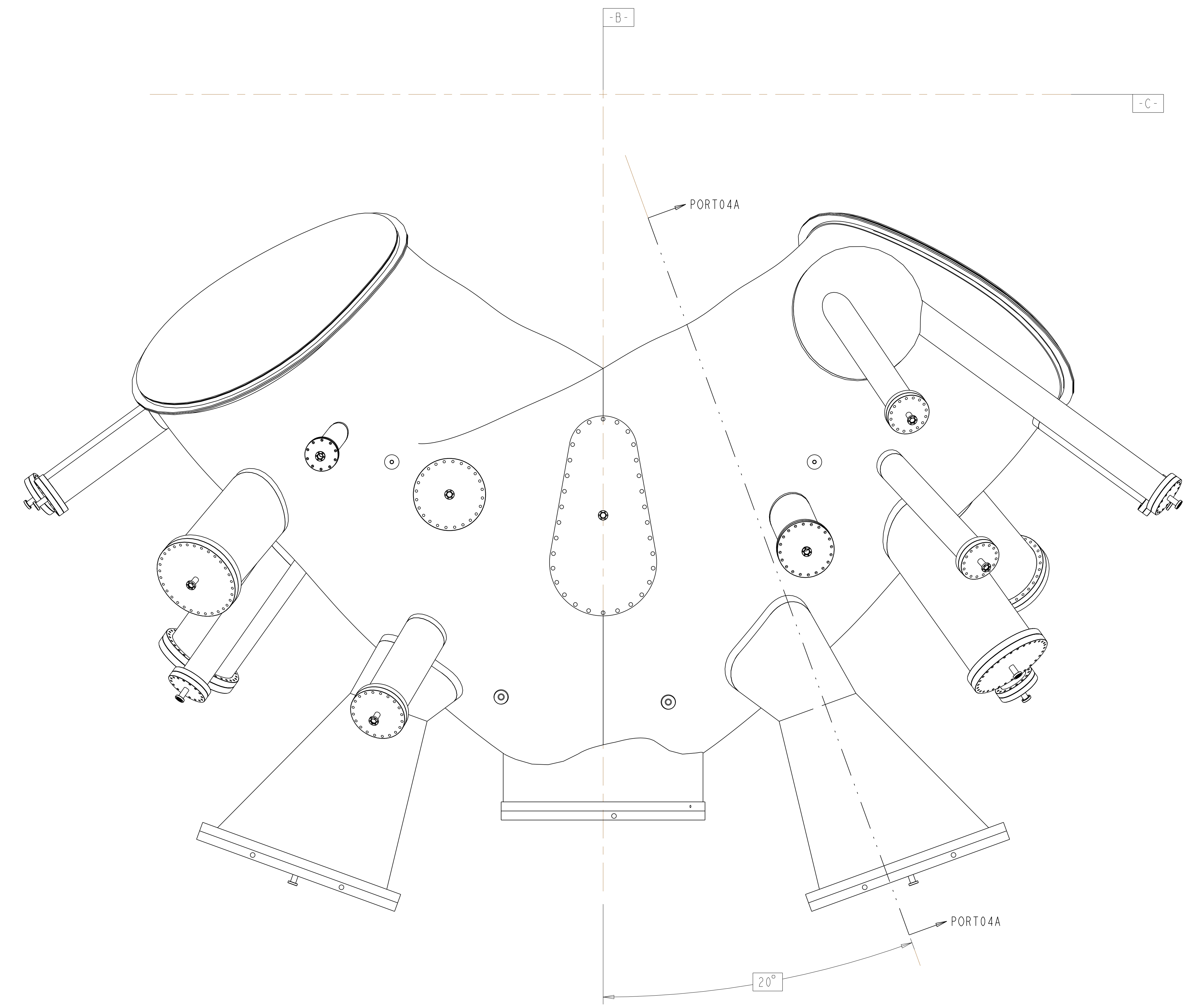
TYPICAL PORT 2A AND 2B SECTION PORT02-PORT02

UT-BATTELLE		Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC, Oak Ridge, Tennessee					
NATIONAL COMPACT STELLARATOR EXPERIMENT							A
VACUUM VESSEL PERIOD INSPECTION AND LEAK CHECK ASSEMBLY							U
VERSION NO.	PLANT	BLDG	FL	SHT OF	TYPE	CLASS	
1	X-10	5700	3	4	19	A	U
RELEASE LEVEL	WIP					SEI20-004	REV 2

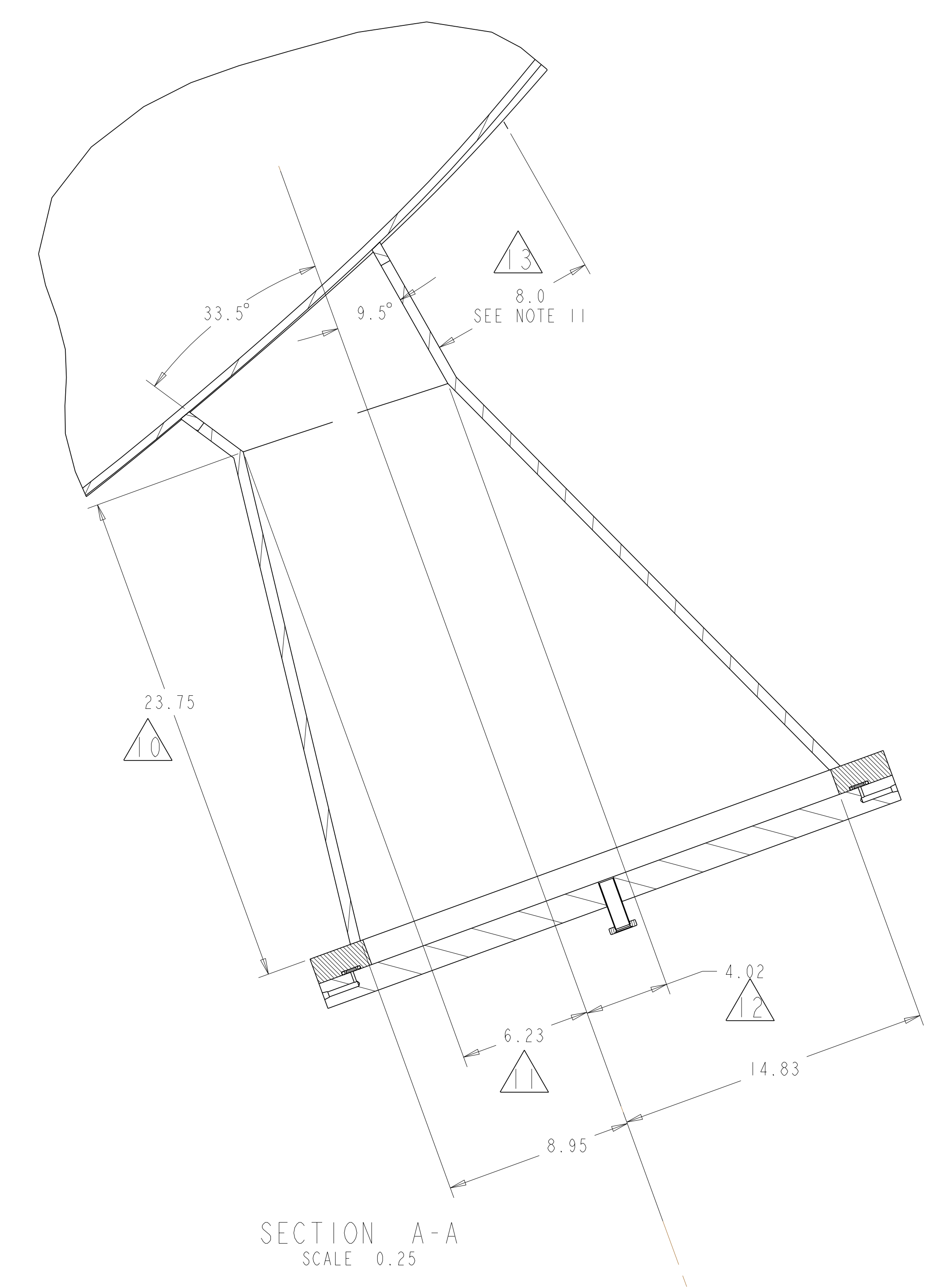
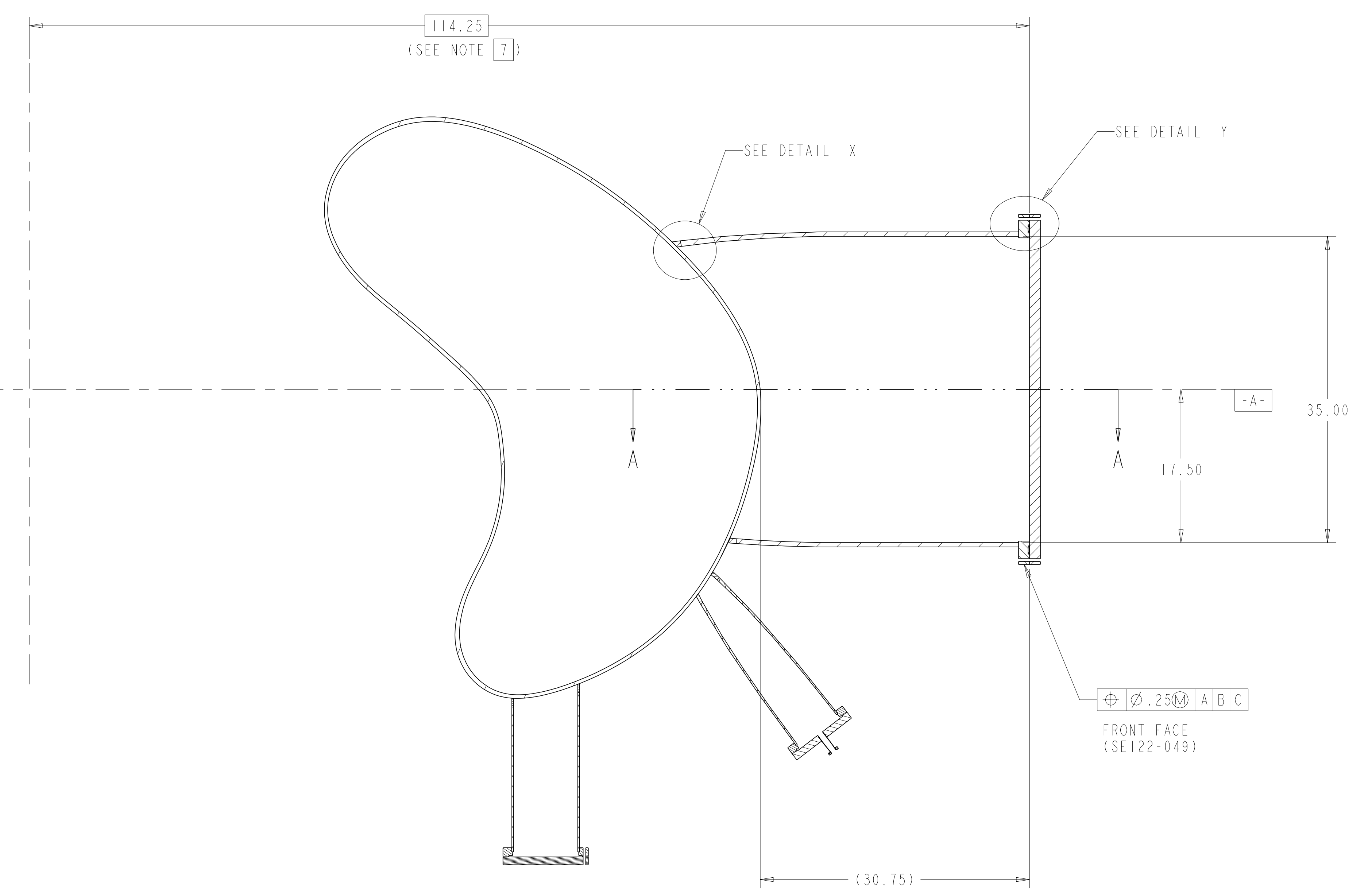
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FOR PARTS LIST AND NOTES SEE SHEET 1.



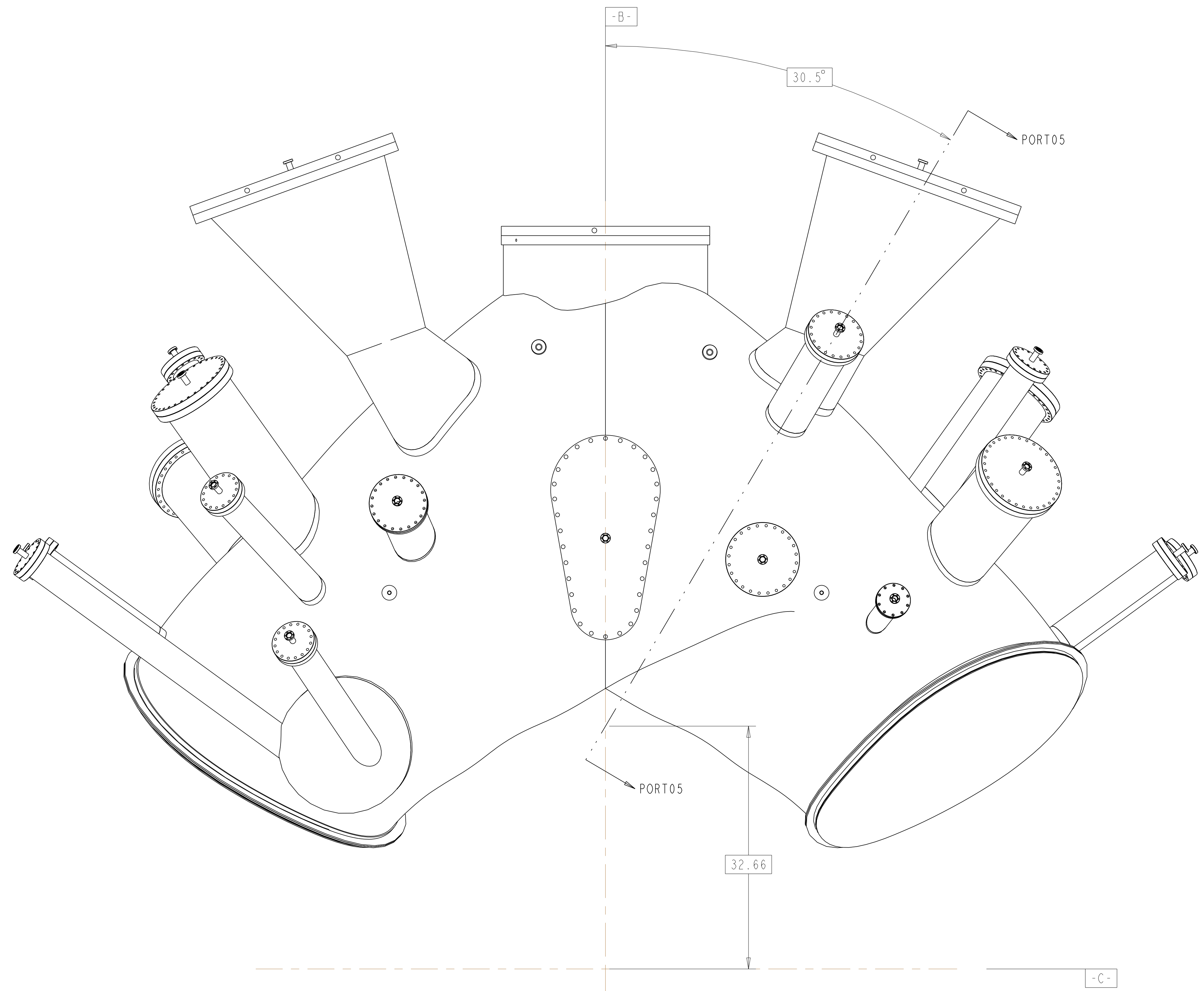
TOP VIEW



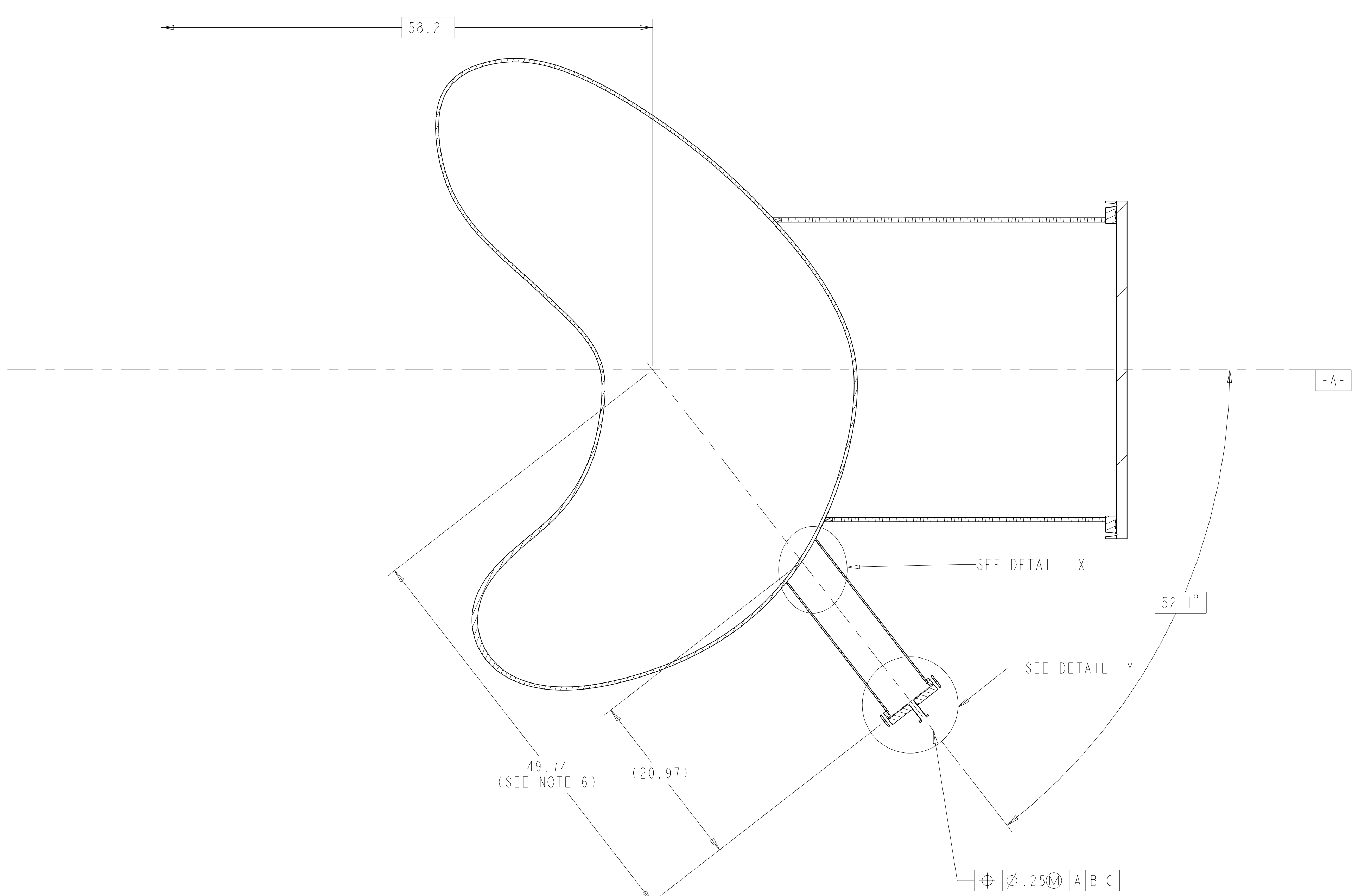
TYPICAL PORT 4A AND 4B SECTION PORT04A-PORT04A

UT-BATTELLE		Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC, Oak Ridge, Tennessee	
PROJECT NAME			
NATIONAL COMPACT STELLERATOR EXPERIMENT			
VACUUM VESSEL			
PERIOD INSPECTION AND LEAK CHECK			
ASSEMBLY			
VERSION NO.	PLANT	BLDG	FL
1	X-10	5700	3
SHT OF	TYPE	CLASS	
5	19	A	
RELEASE LEVEL	WIP		SE120-004
			REV 2

SE120-004

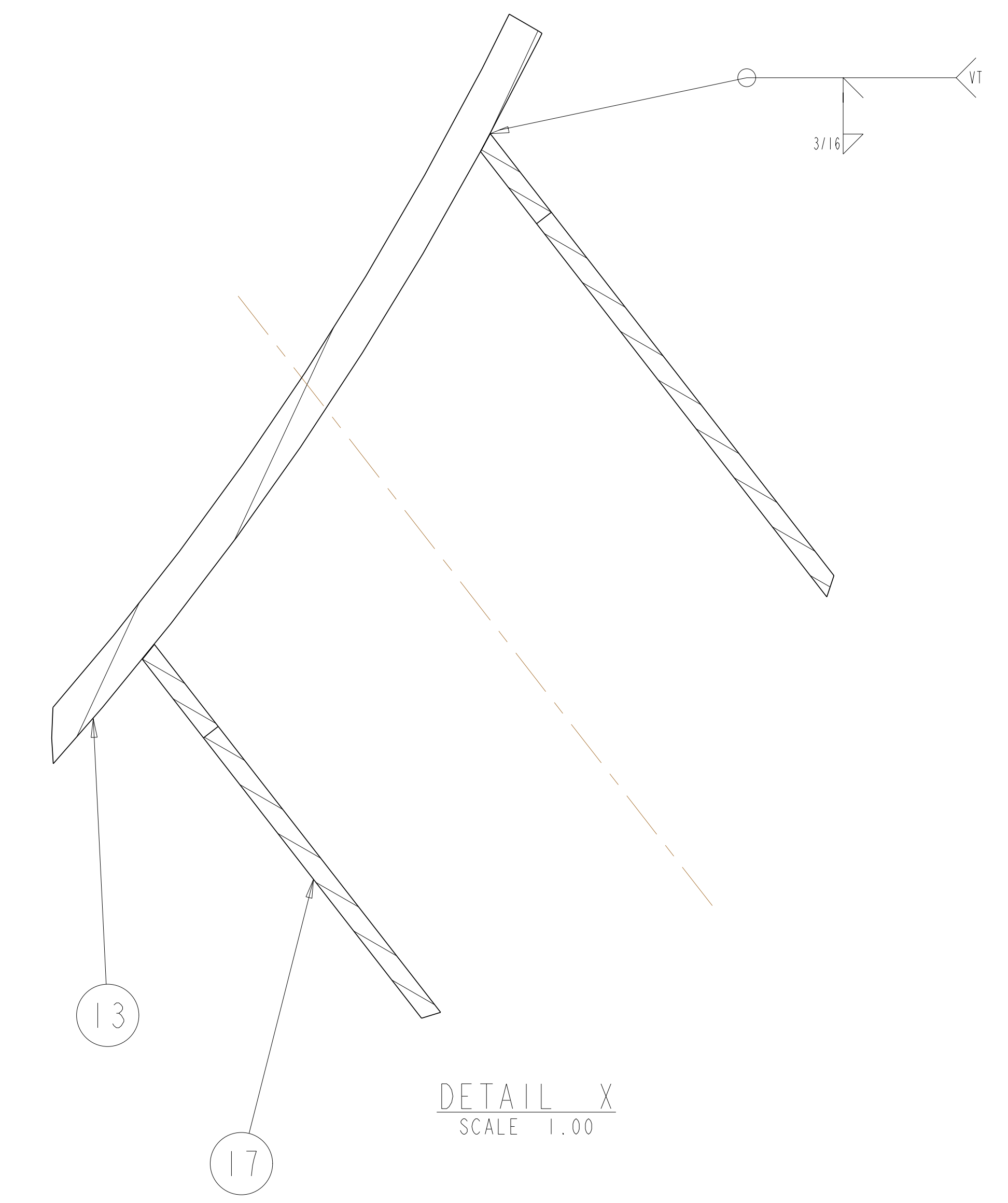


BOTTOM VIEW

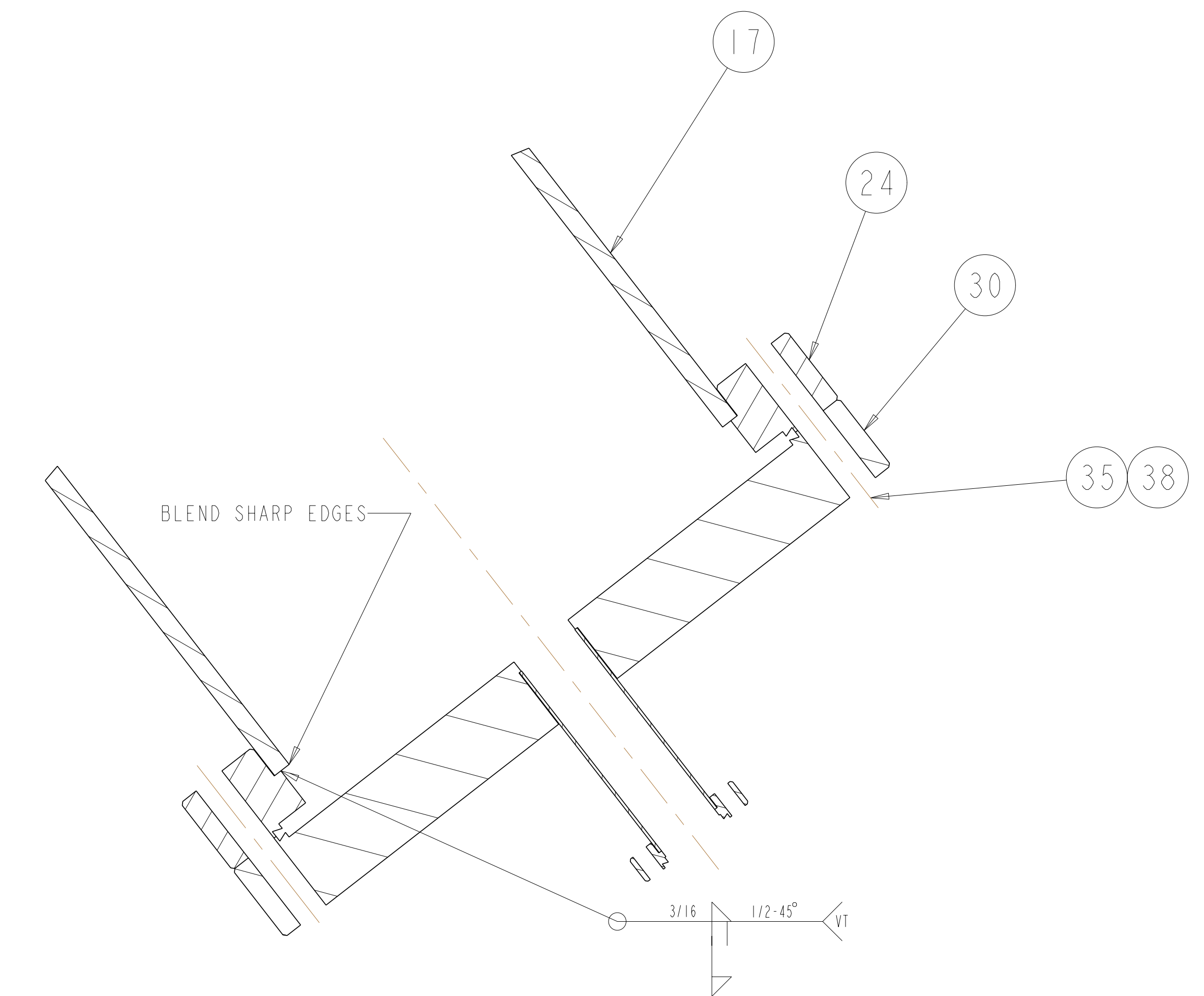


TYPICAL PORT 5A AND 5B SECTION PORT05-PORT05

FOR PARTS LIST AND NOTES SEE SHEET 1.



DETAIL X  
SCALE 1.00

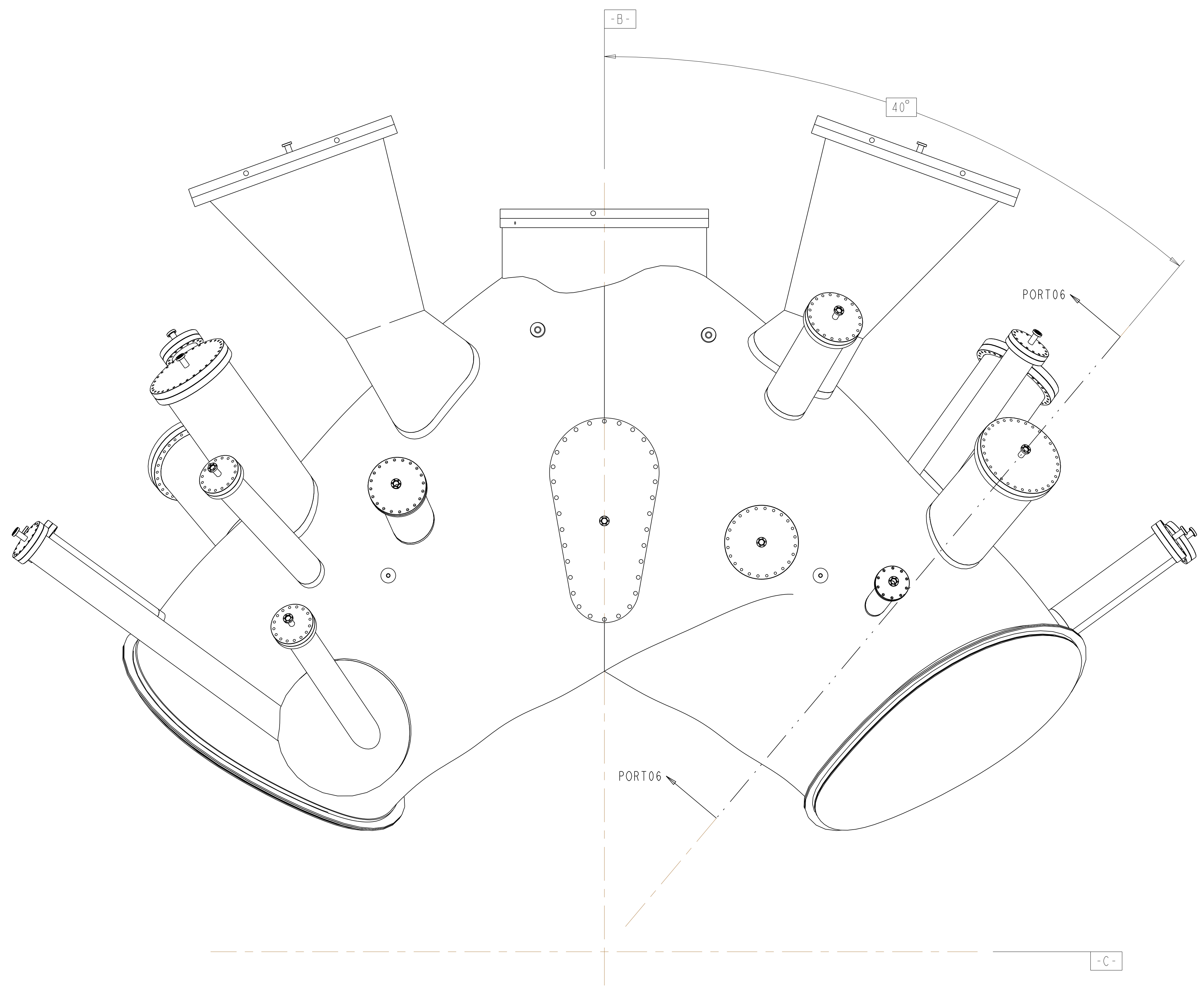


DETAIL Y  
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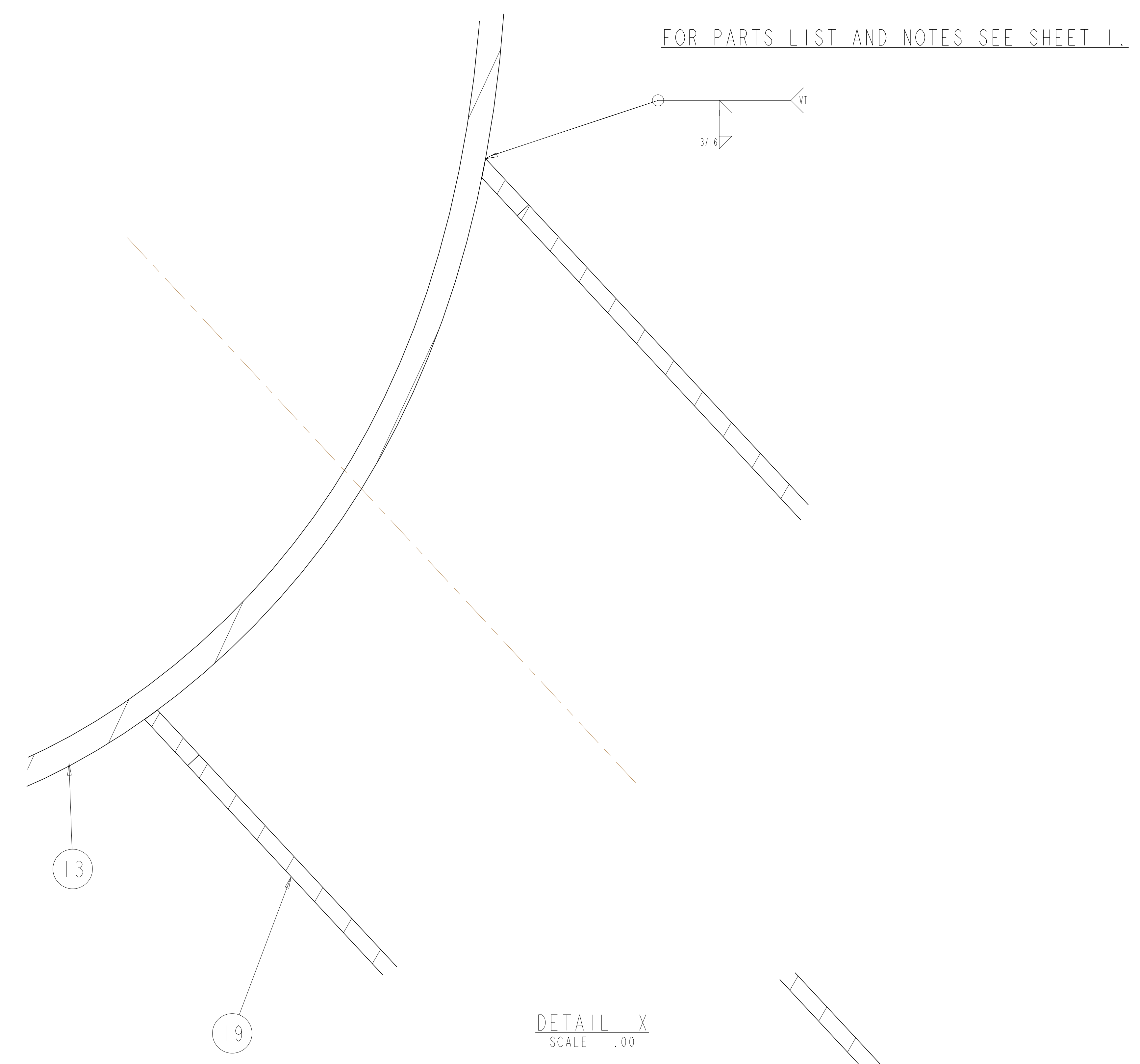
UT-BATTELLE		Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC, Oak Ridge, Tennessee					
PROJECT NAME							
NATIONAL COMPACT STELLARATOR EXPERIMENT							
VACUUM VESSEL							
PERIOD INSPECTION AND LEAK CHECK							
ASSEMBLY							
VERSION NO.	PLANT	BLDG	FL	SHT OF	TYPE	CLASS	
1	X-10	5700	3	6	19	A	U
RELEASE LEVEL		SEI20-004				REV	
WIP						2	

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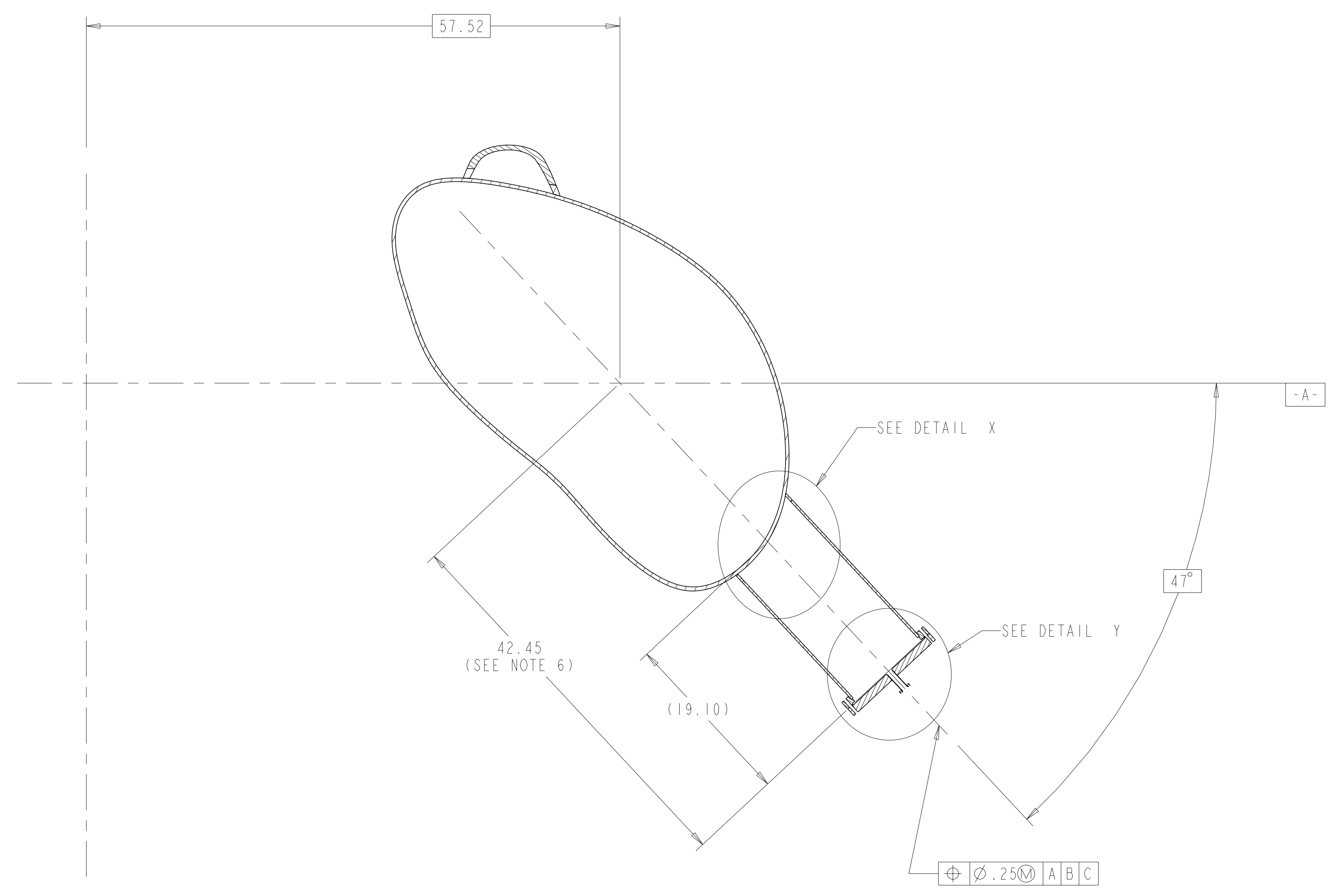
SEI20-004



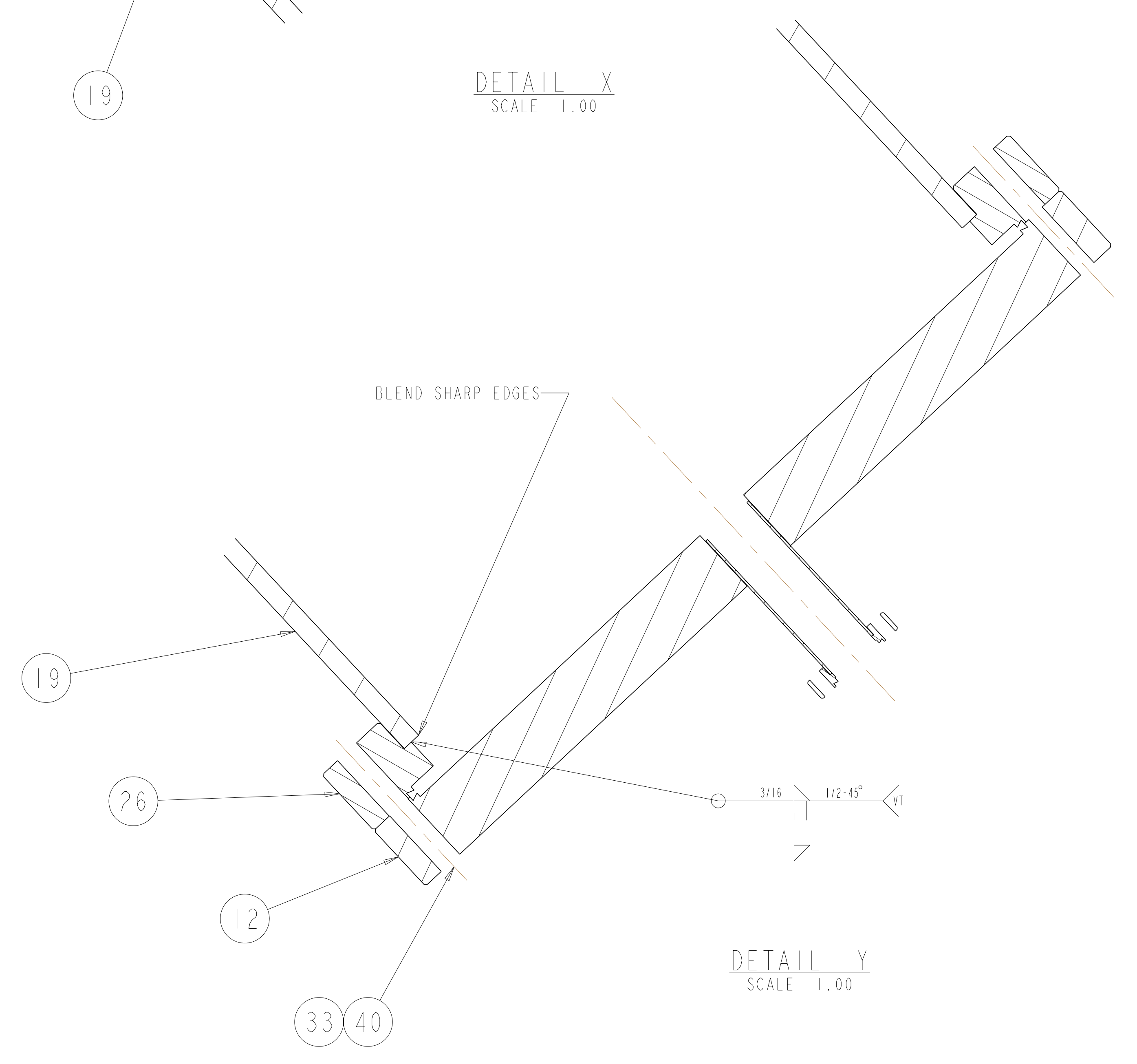
BOTTOM VIEW



DETAIL X  
SCALE 1.00



TYPICAL PORT 6A AND 6B  
SECTION PORT06-PORT06



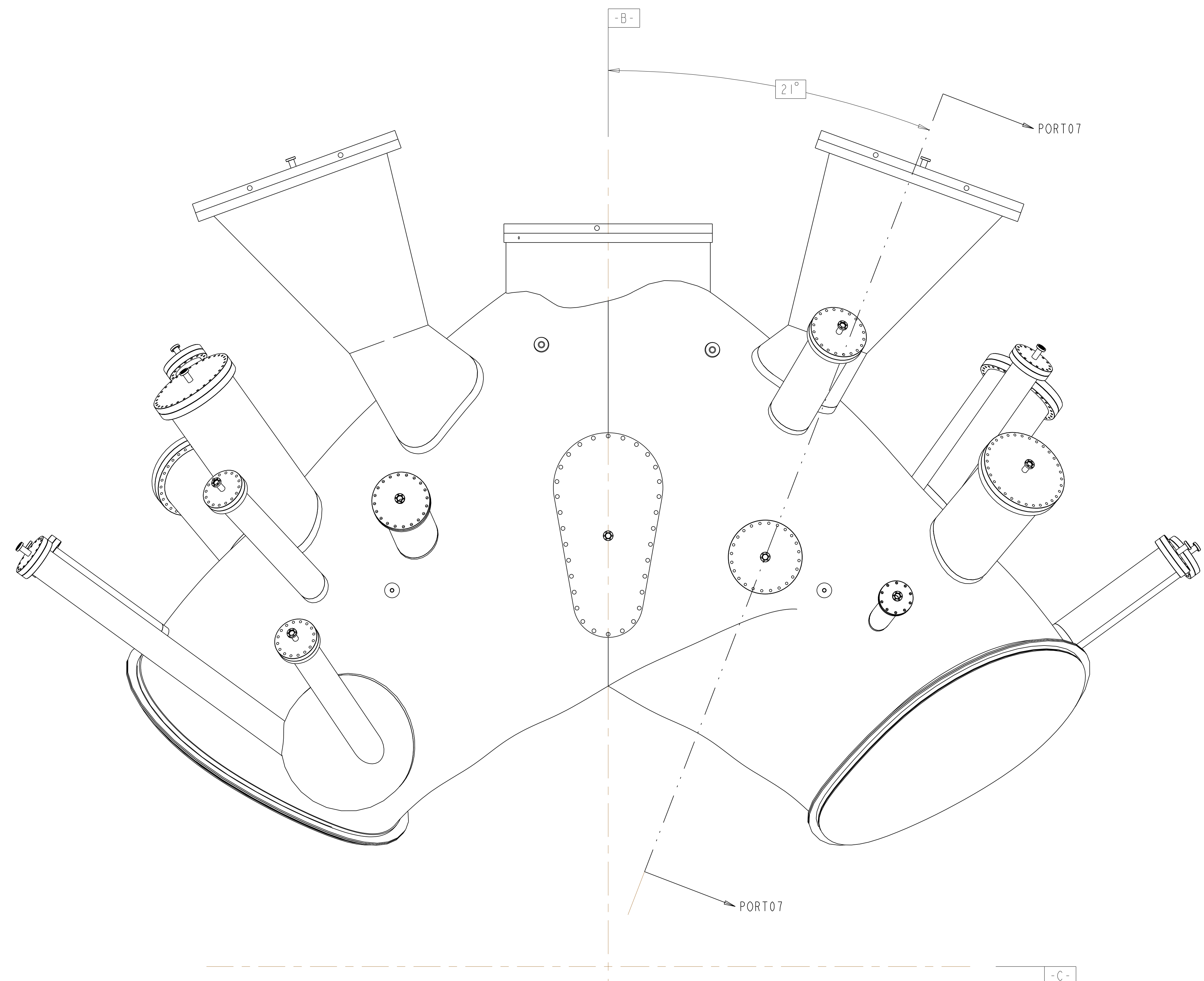
DETAIL Y  
SCALE 1.00

FOR PARTS LIST AND NOTES SEE SHEET 1.

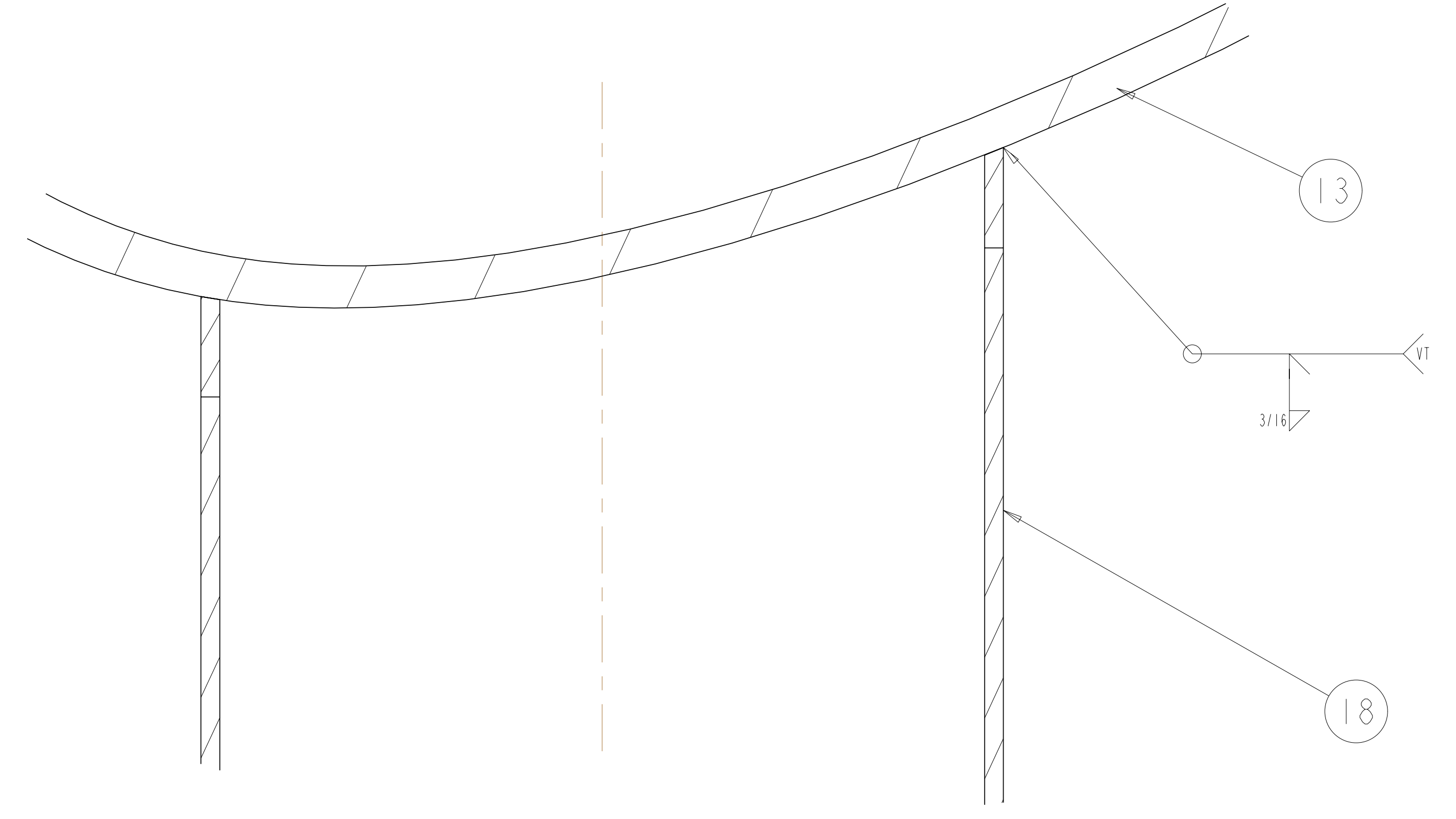
<b>UT-BATTELLE</b>		Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC, Oak Ridge, Tennessee					
<b>NATIONAL COMPACT STELLARATOR EXPERIMENT</b>							
<b>VACUUM VESSEL PERIOD INSPECTION AND LEAK CHECK ASSEMBLY</b>							
VERSION NO.	PLANT	BLDG	FL	SHT OF	TYPE	CLASS	
1	X-10	5700	3	7 19	A	U	
RELEASE LEVEL	SEI20-004					REV	
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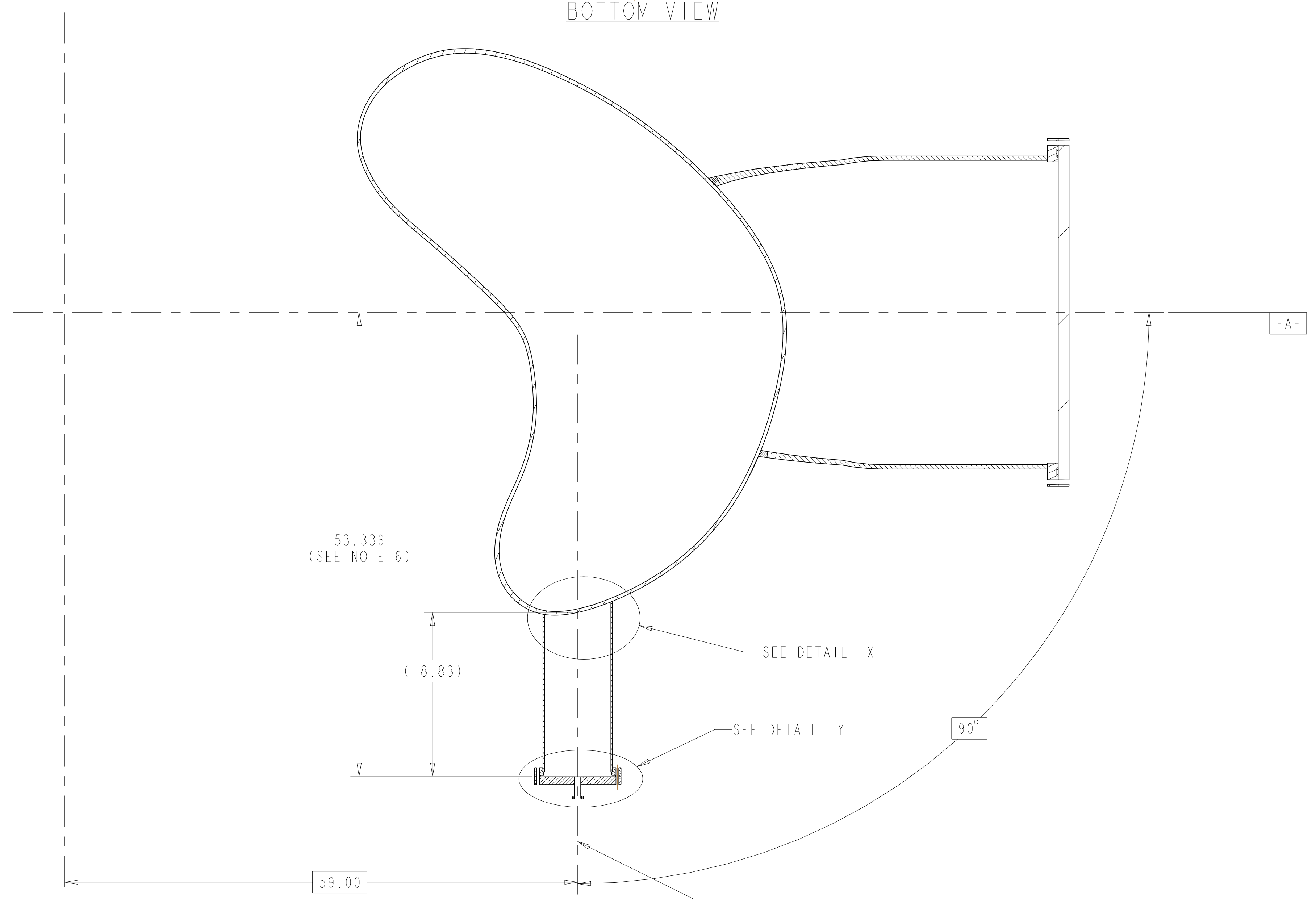
FOR PARTS LIST AND NOTES SEE SHEET 1.



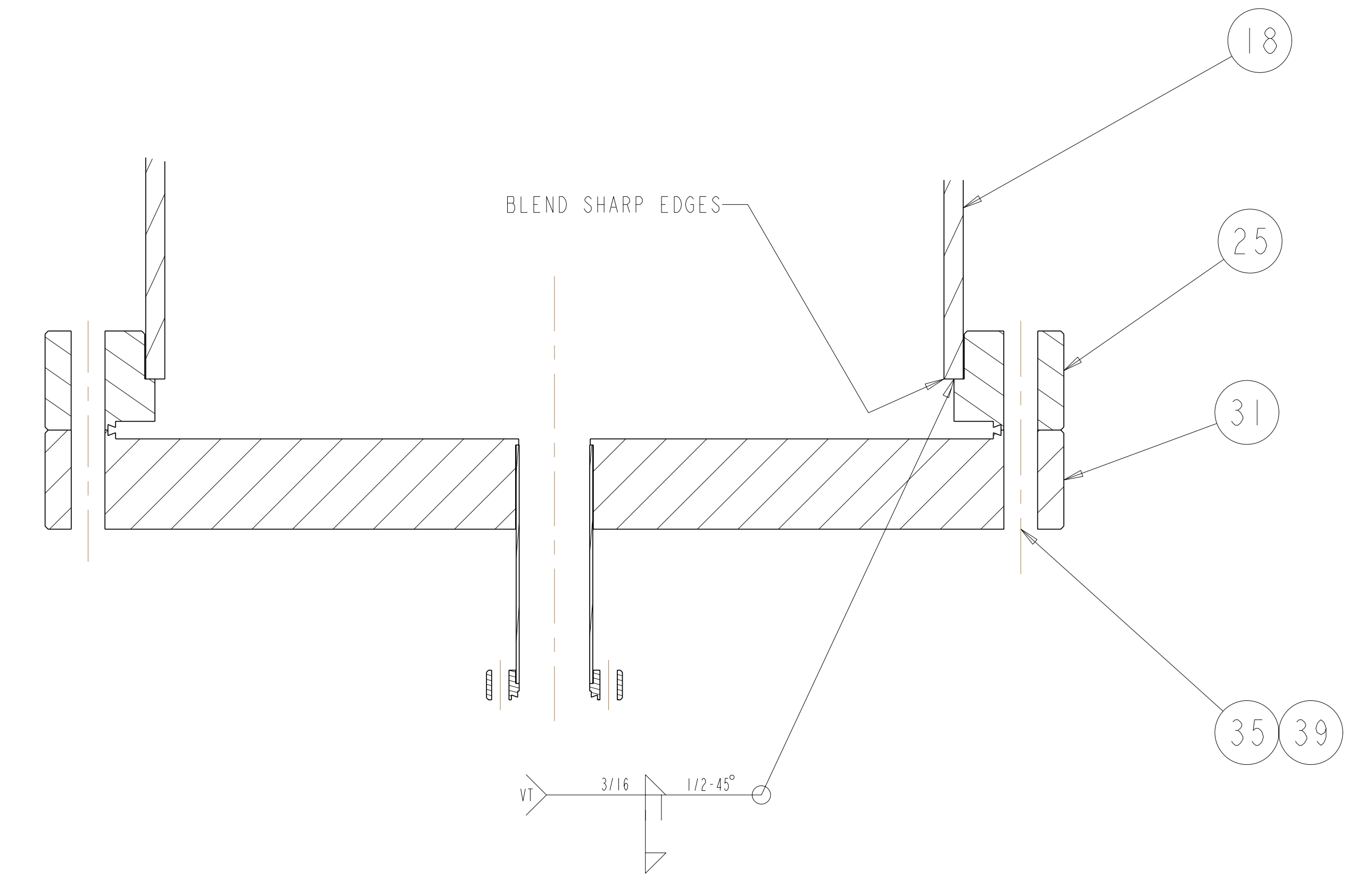
BOTTOM VIEW



DETAIL X  
SCALE 1.00



TYPICAL PORT 7A AND 7B  
SECTION PORT07-PORT07



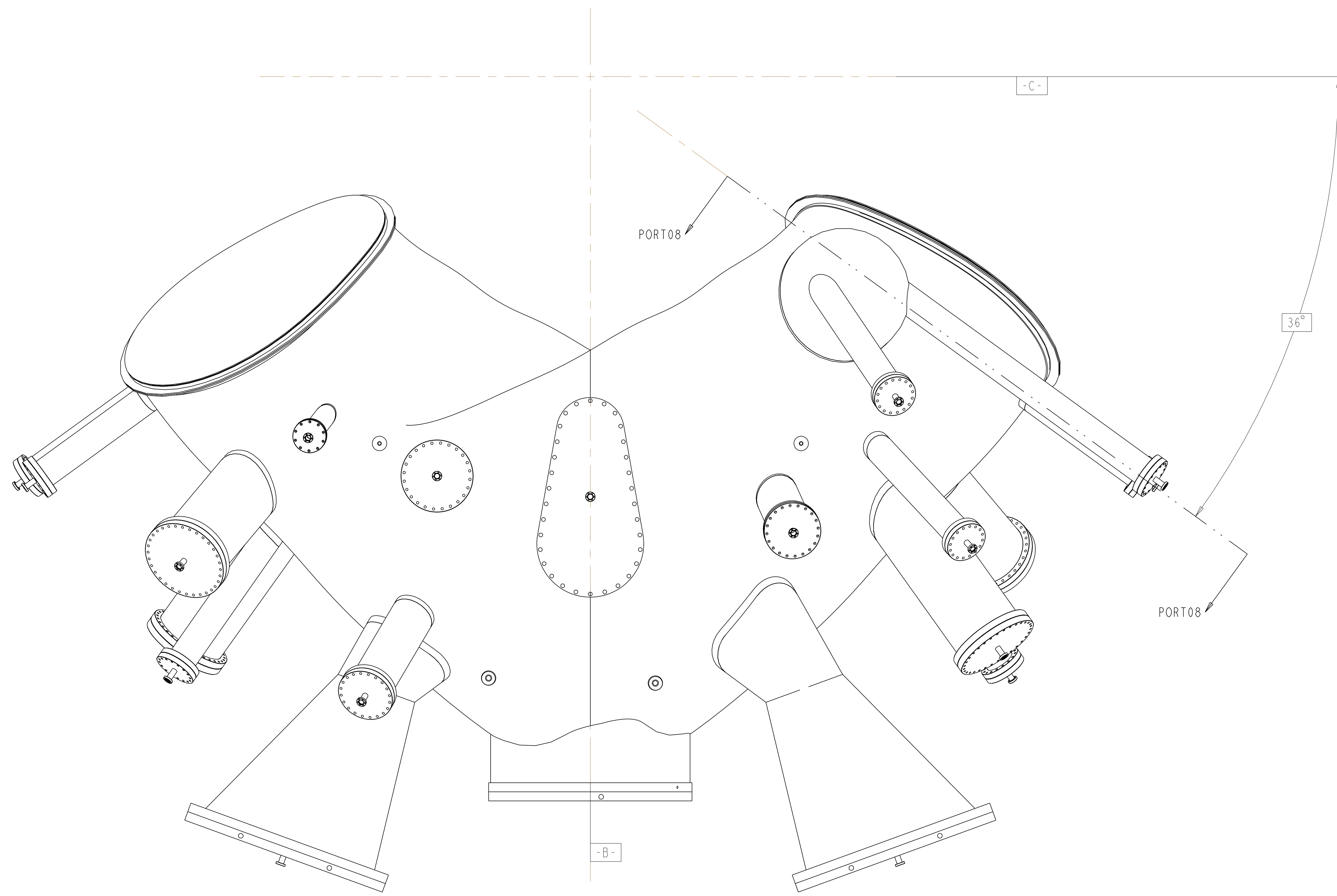
DETAIL Y  
SCALE 1.00

UT-BATTELLE		Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC, Oak Ridge, Tennessee					
PROJECT NAME							
NATIONAL COMPACT STELLARATOR EXPERIMENT							
VACUUM VESSEL							
PERIOD INSPECTION AND LEAK CHECK							
ASSEMBLY							
VERSION NO.	PLANT	BLDG	FL	SHT OF	TYPE	CLASS	
1	X-10	5700	3	8 19	A	U	
RELEASE LEVEL		SE120-004				REV	
WIP						2	

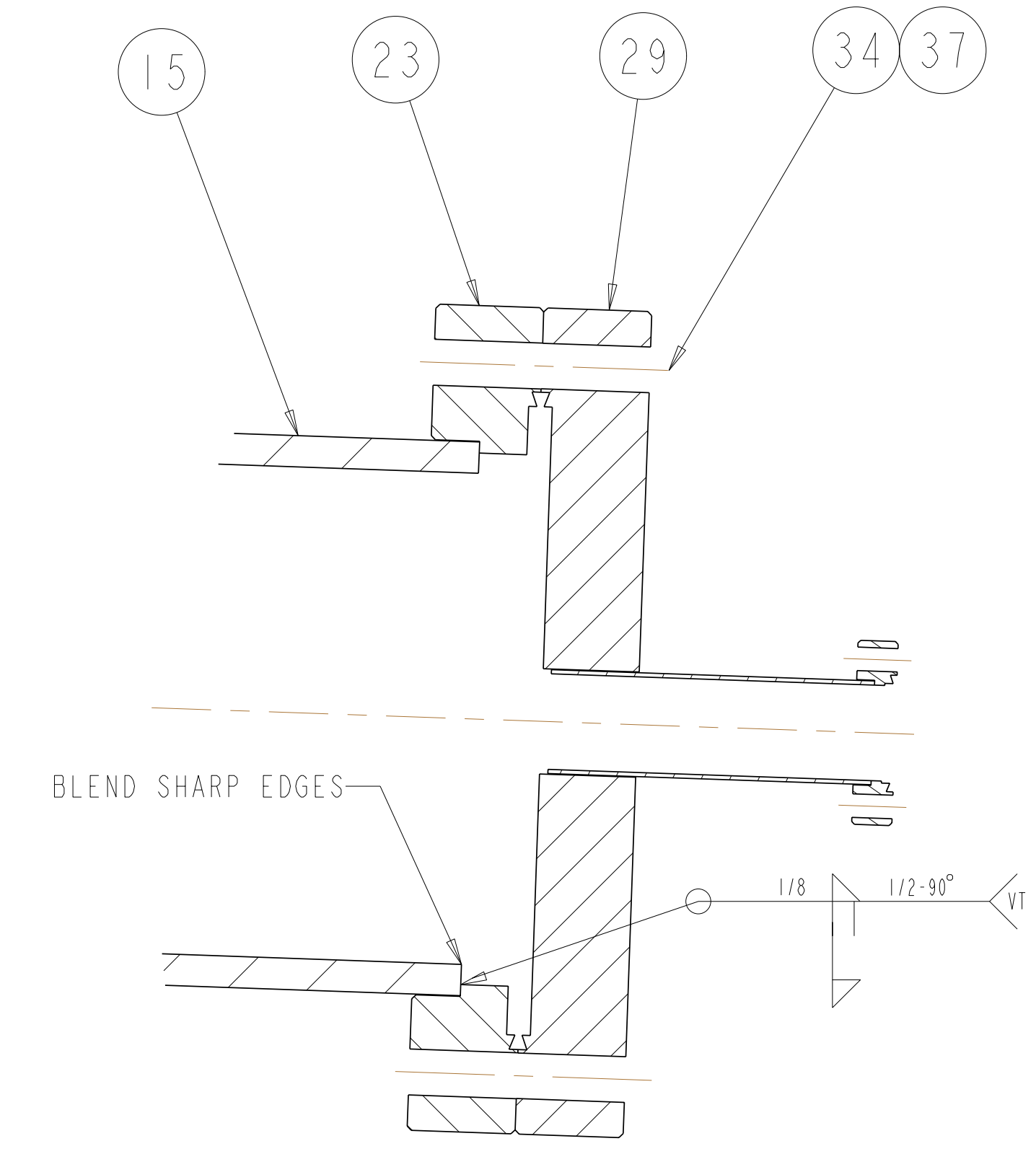
SE120-004



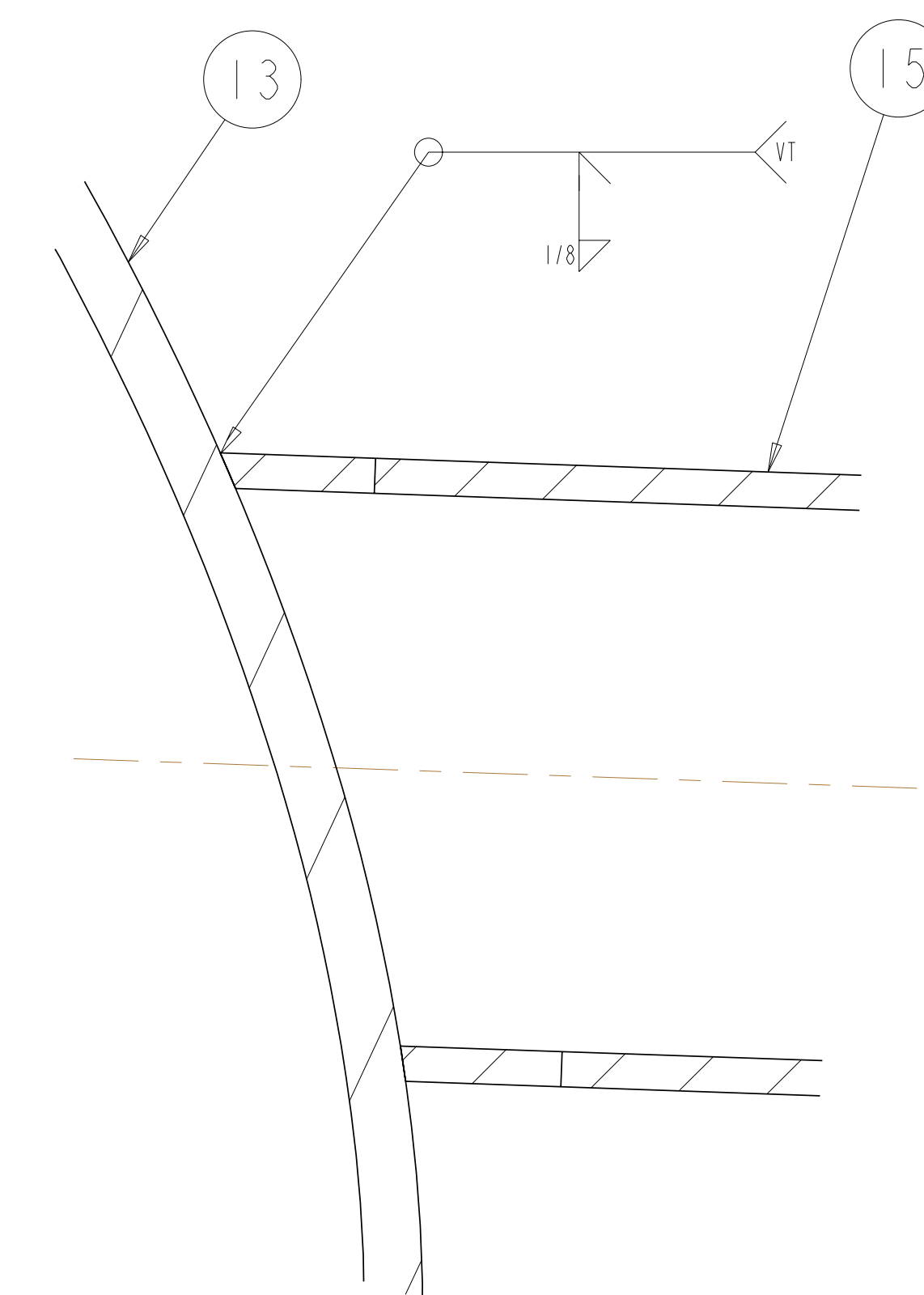
FOR PARTS LIST AND NOTES SEE SHEET 1.



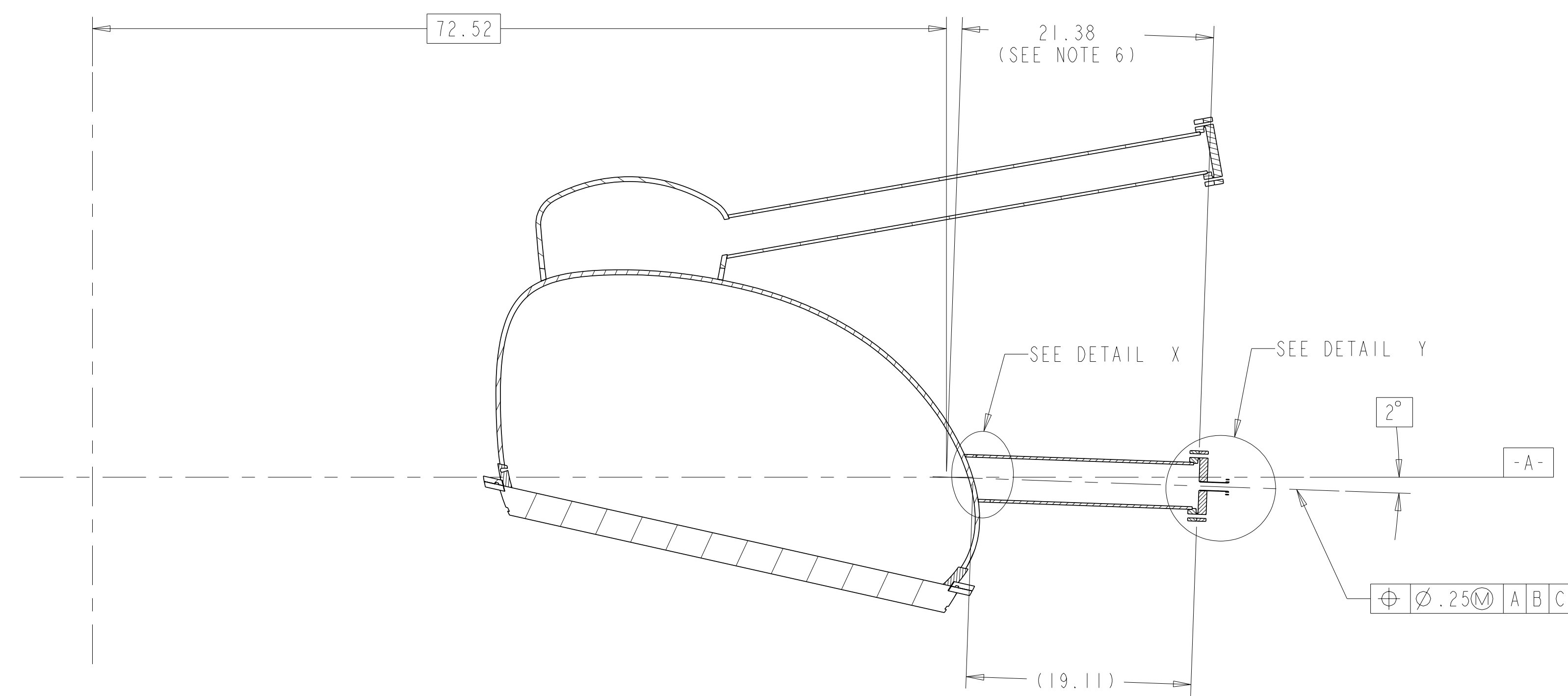
TOP VIEW



DETAIL Y  
 SCALE 1.00



DETAIL X  
 SCALE 1.00

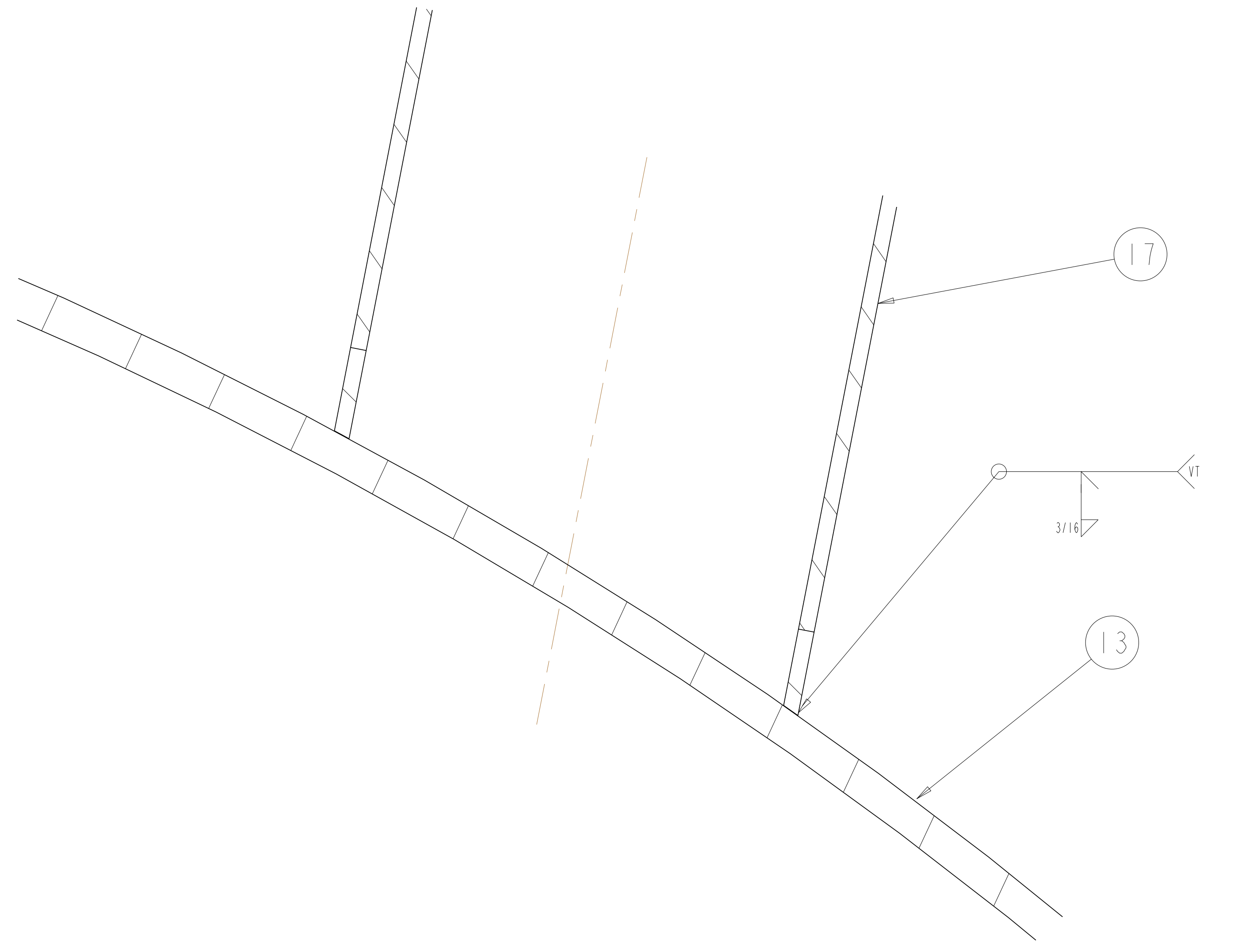
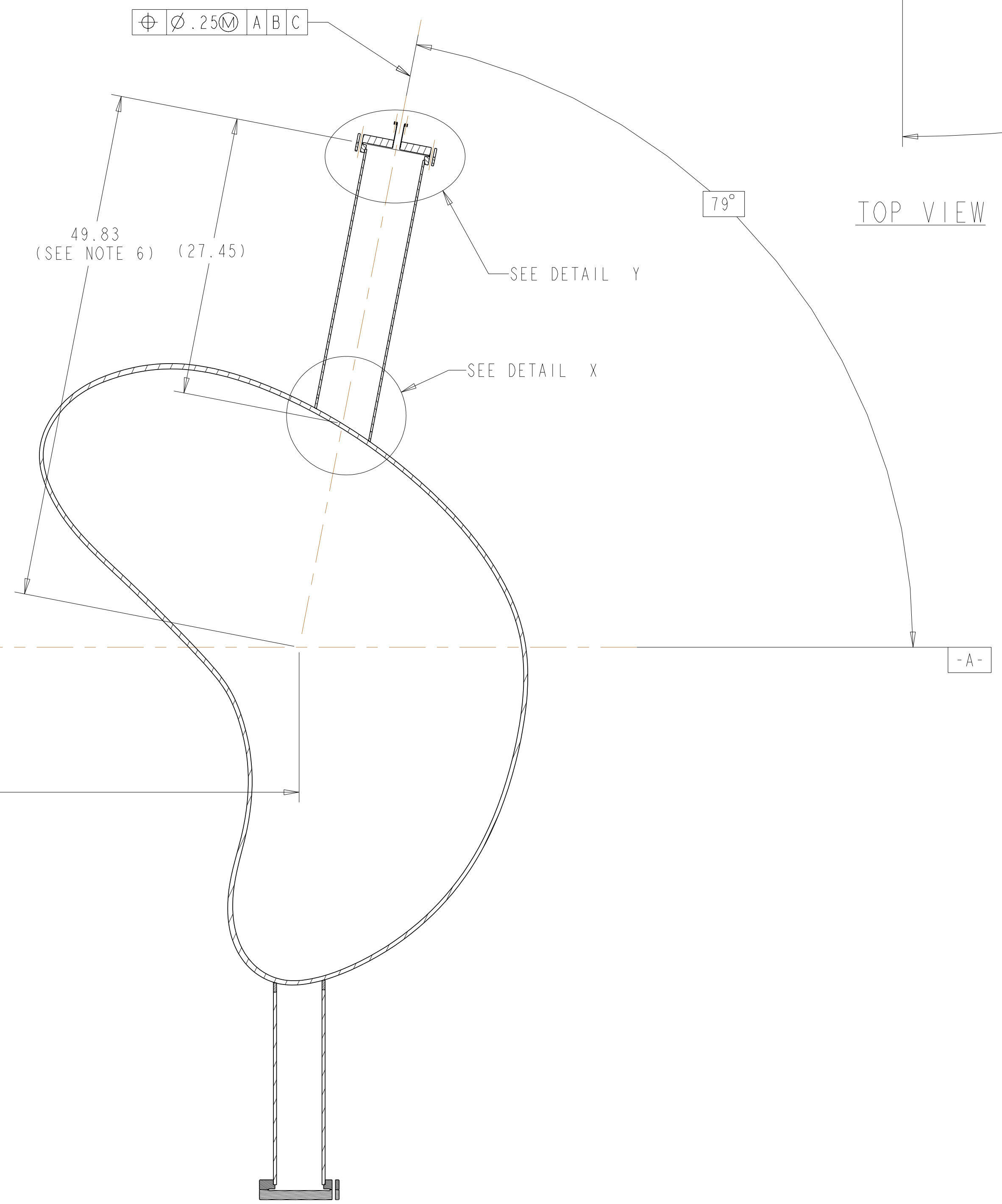
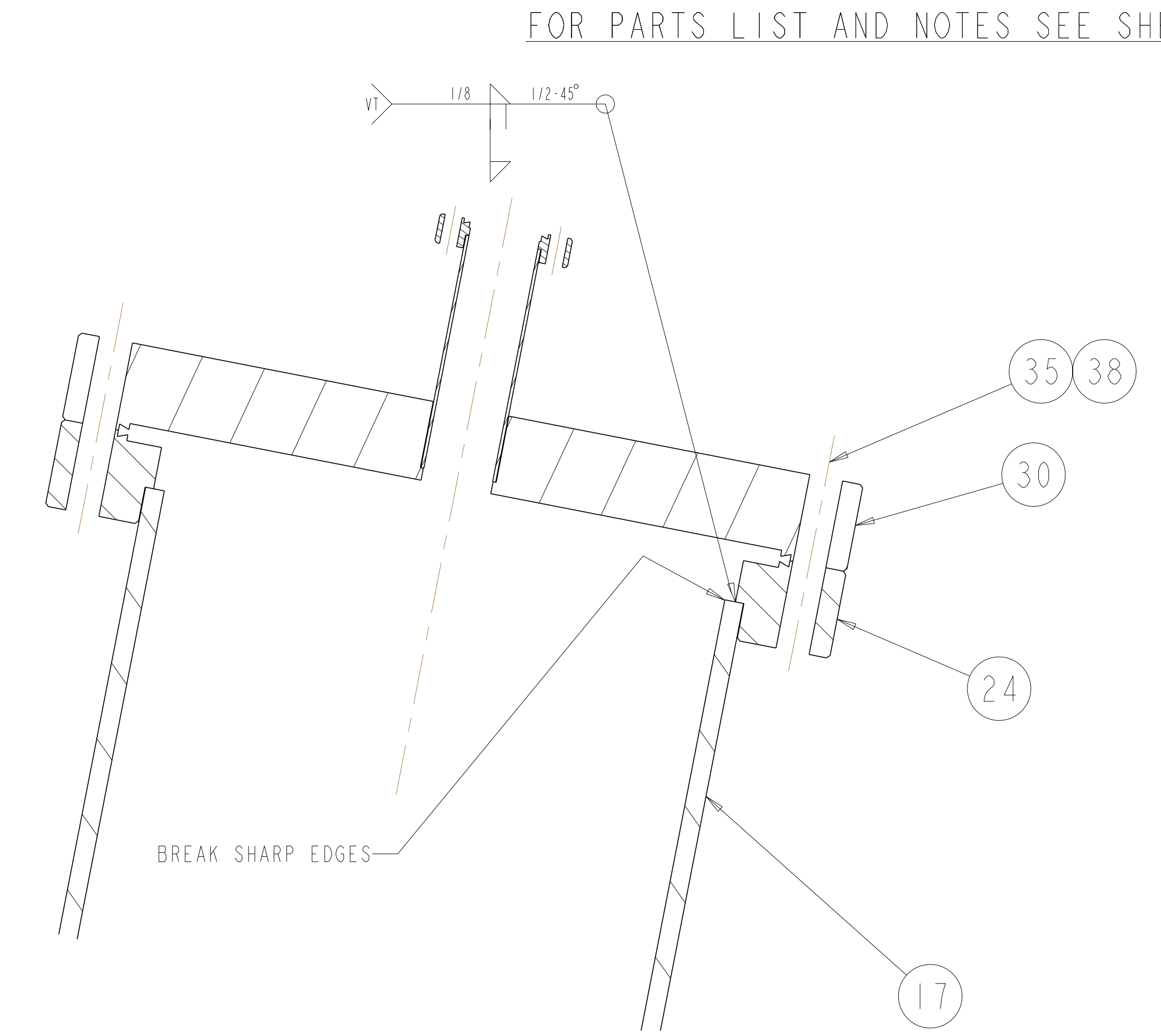
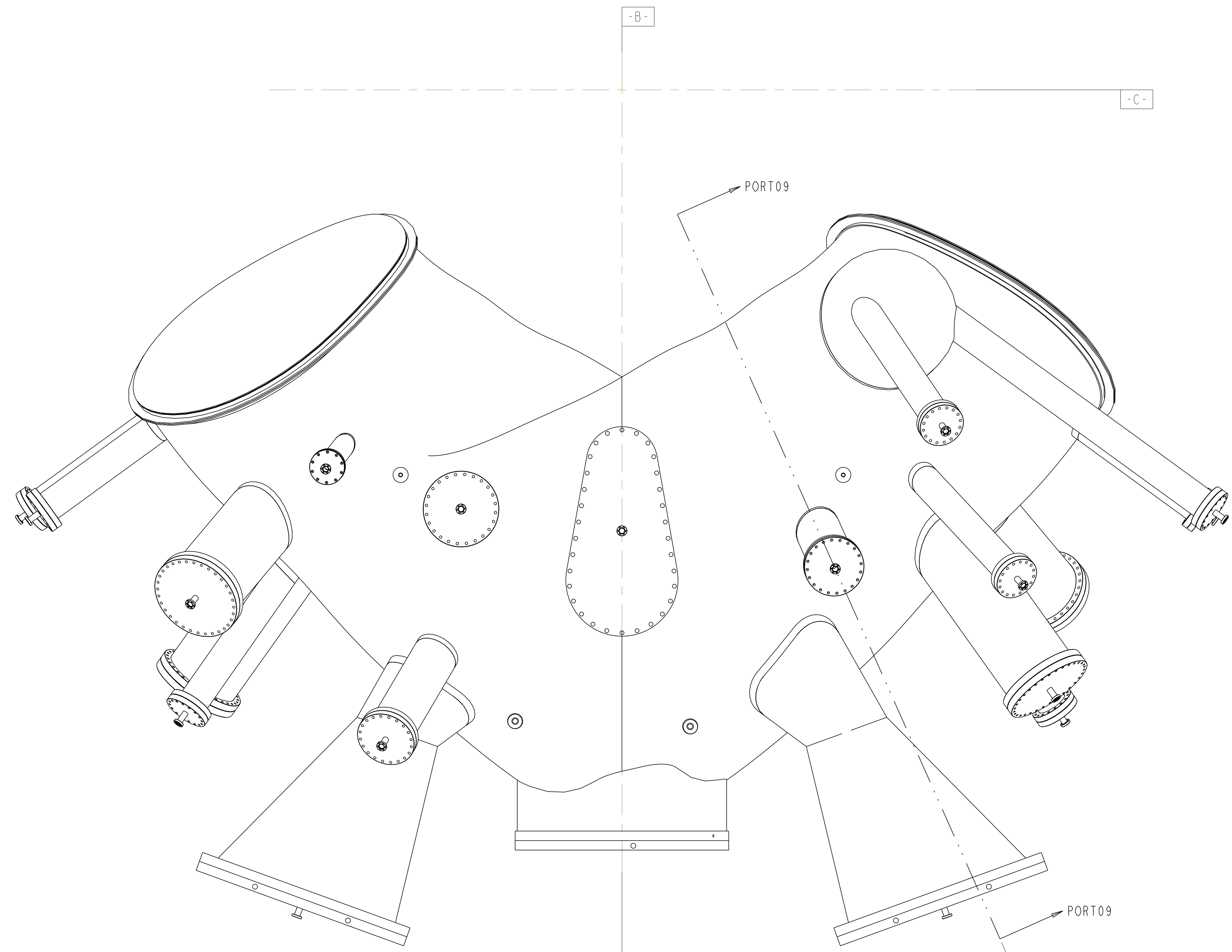


TYPICAL PORT 8A AND 8B  
 SECTION PORT08-PORT08

Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC, Oak Ridge, Tennessee PROJECT NAME						
<b>UT-BATTELLE</b> NATIONAL COMPACT STELLERATOR EXPERIMENT VACUUM VESSEL PERIOD INSPECTION AND LEAK CHECK ASSEMBLY						
VERSION NO.	PLANT	BLDG	FL	SHT OF	TYPE	CLASS
1	X-10	5700	3	9 19	A	U
RELEASE LEVEL	SEI20-004					REV
WIP						2

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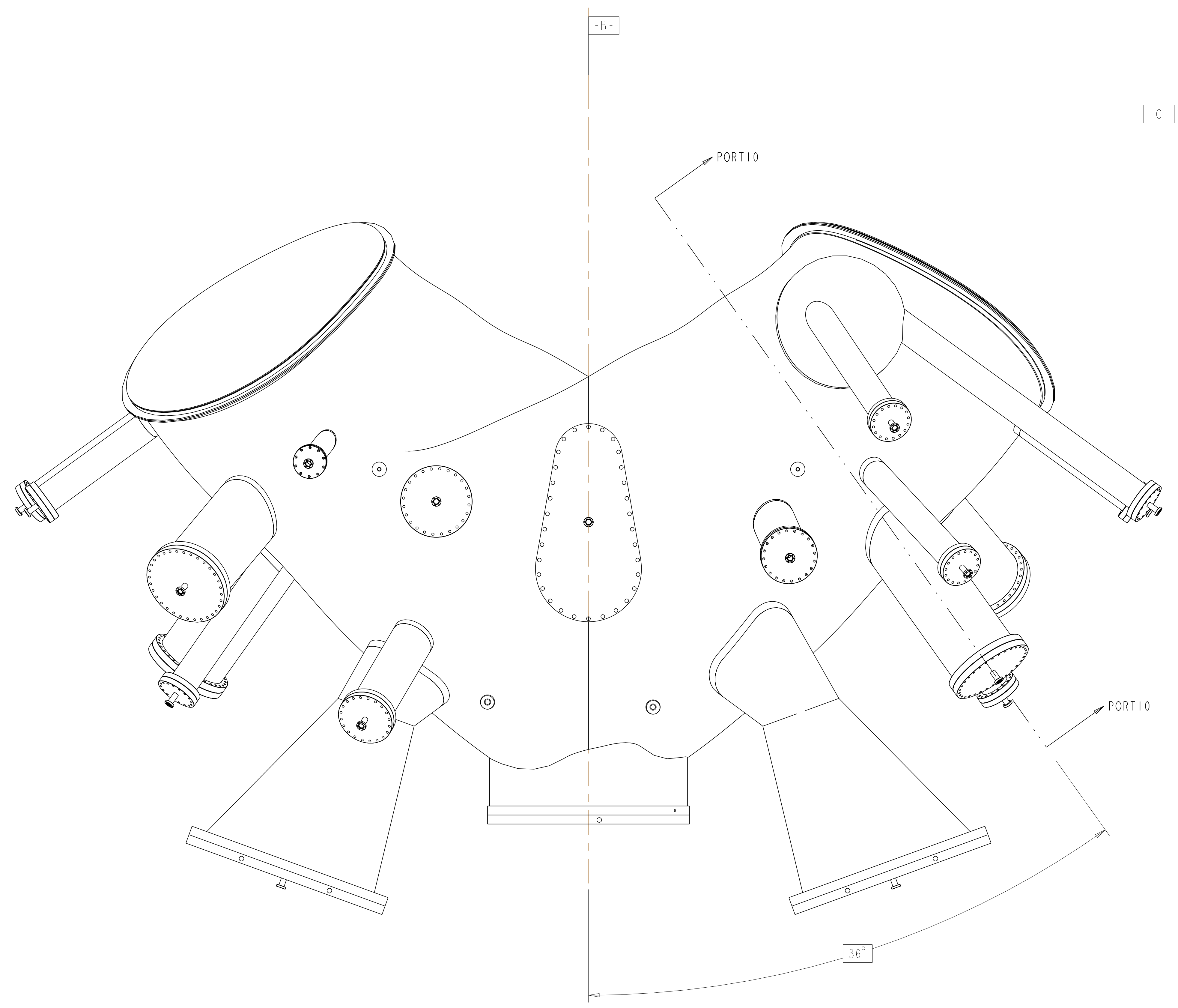
TYPICAL PORT 9A AND 9B SECTION PORT09-PORT09

UT-BATTELLE		Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC, Oak Ridge, Tennessee	
PROJECT NAME			
NATIONAL COMPACT STELLARATOR EXPERIMENT			
VACUUM VESSEL PERIOD INSPECTION AND LEAK CHECK ASSEMBLY			
VERSION NO.	PLANT	BLDG	FL
1	X-10	5700	3
RELEASE LEVEL	WIP	SEI20-004	1
SHT OF	TYPE	CLASS	
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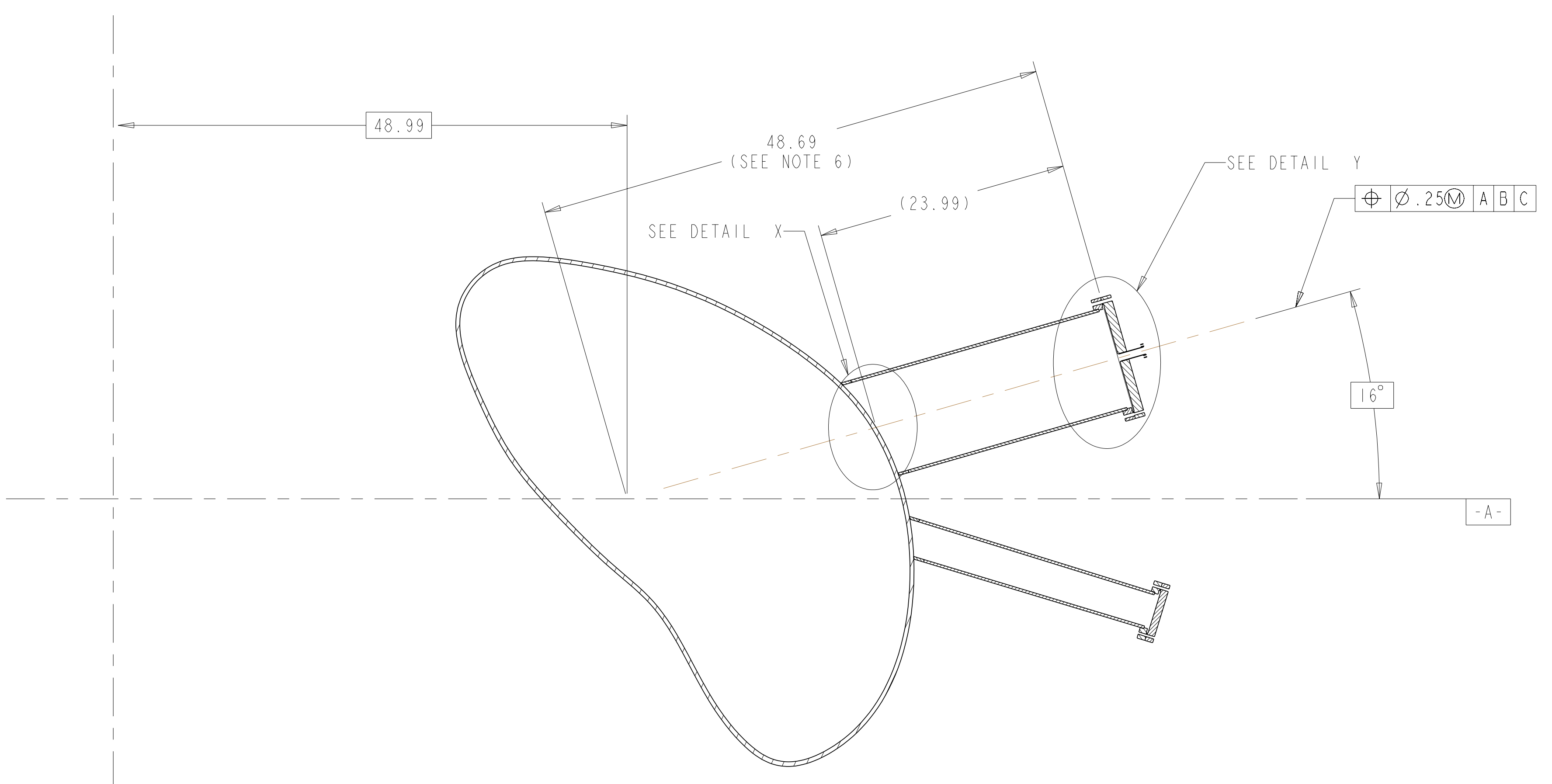
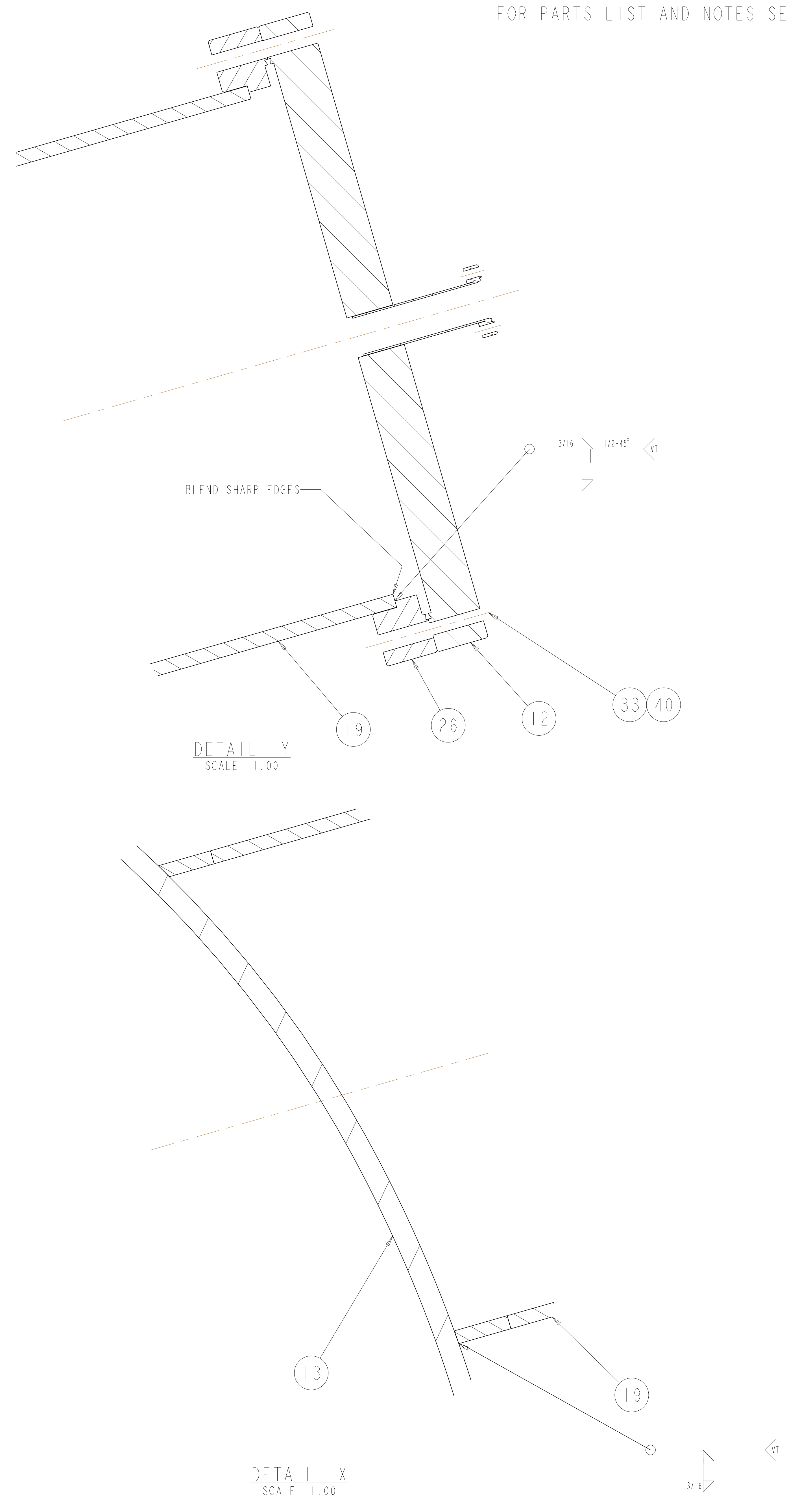
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FOR PARTS LIST AND NOTES SEE SHEET 1.



TOP VIEW



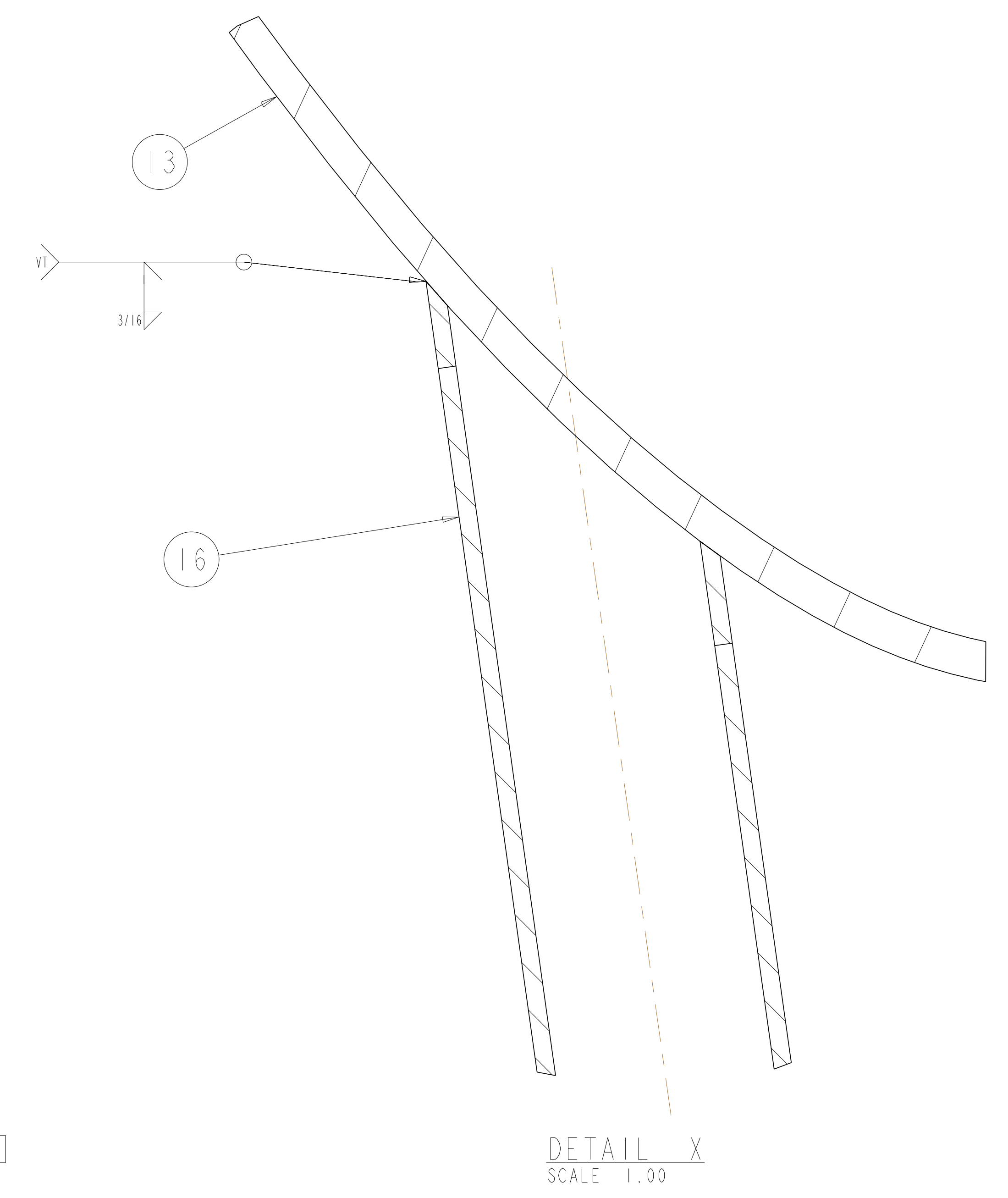
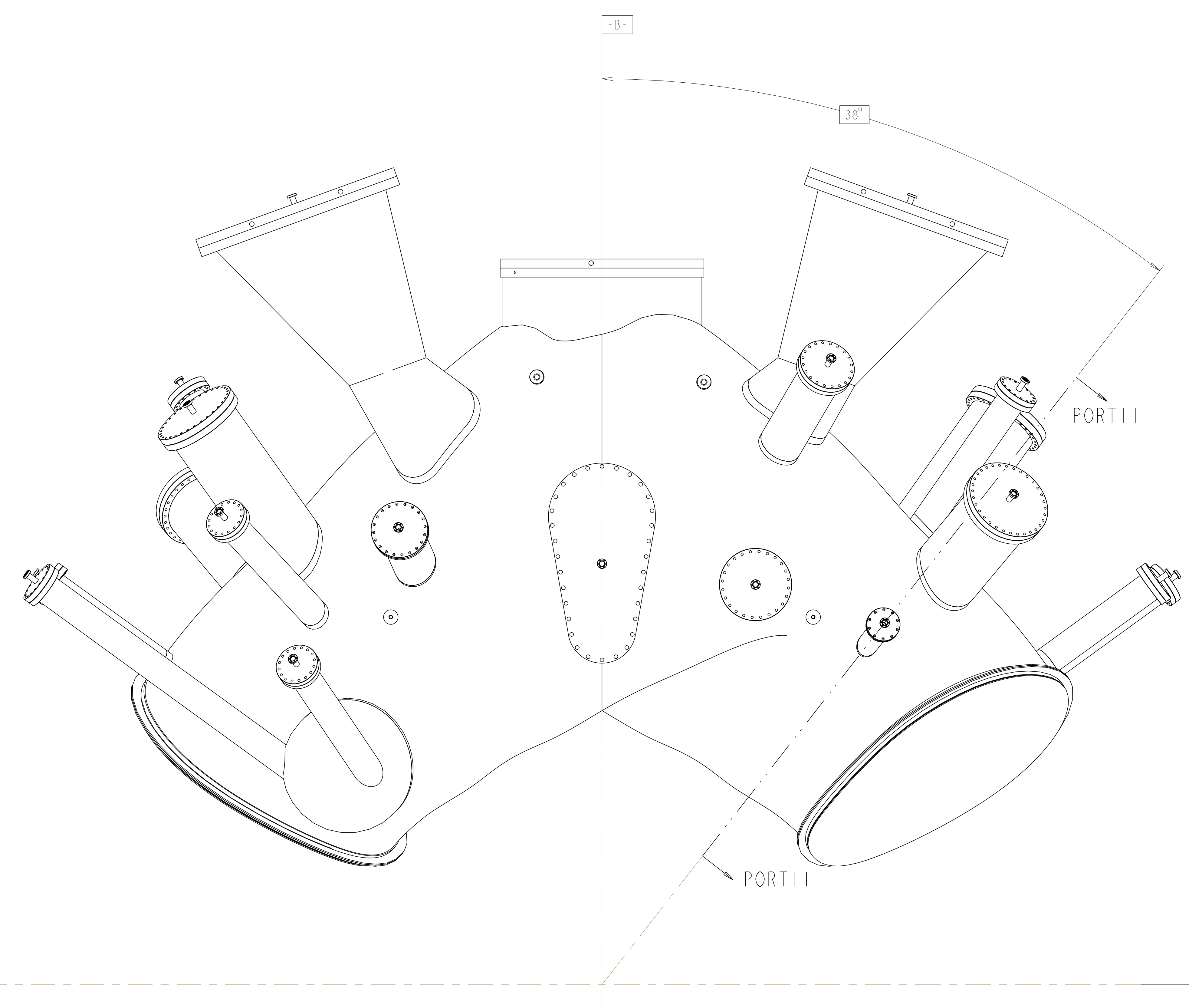
TYPICAL PORT 10A AND 10B SECTION PORT10-PORT10

<b>UT-BATTELLE</b>		Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC, Oak Ridge, Tennessee					
<b>NATIONAL COMPACT STELLARATOR EXPERIMENT</b>							
VACUUM VESSEL PERIOD INSPECTION AND LEAK CHECK ASSEMBLY							
VERSION NO.	PLANT	BLDG	FL	SHT OF	TYPE	CLASS	
1	X-10	5700	3	11 19	A	U	
RELEASE LEVEL	SEI20-004					REV	2
WIP							

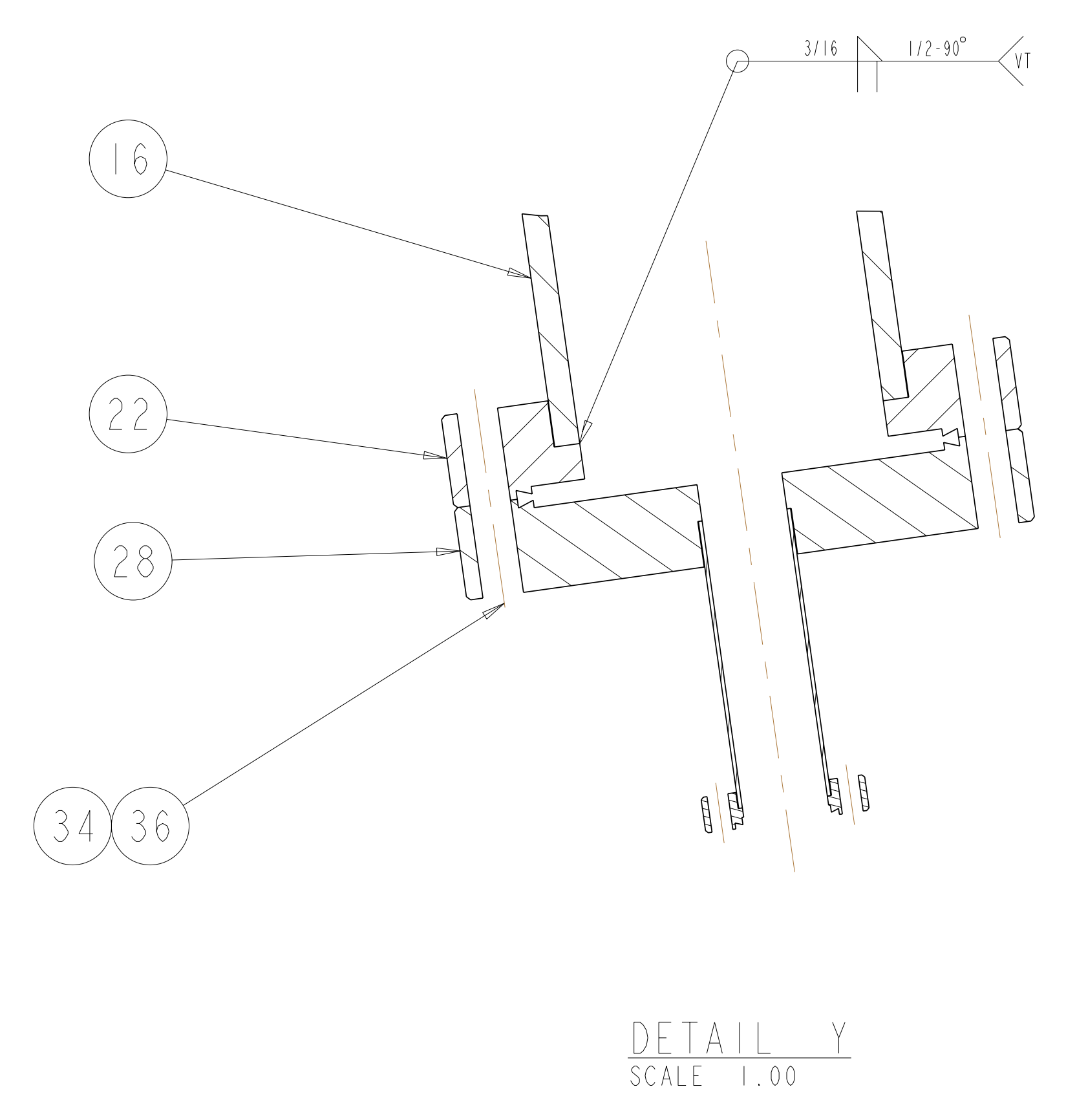
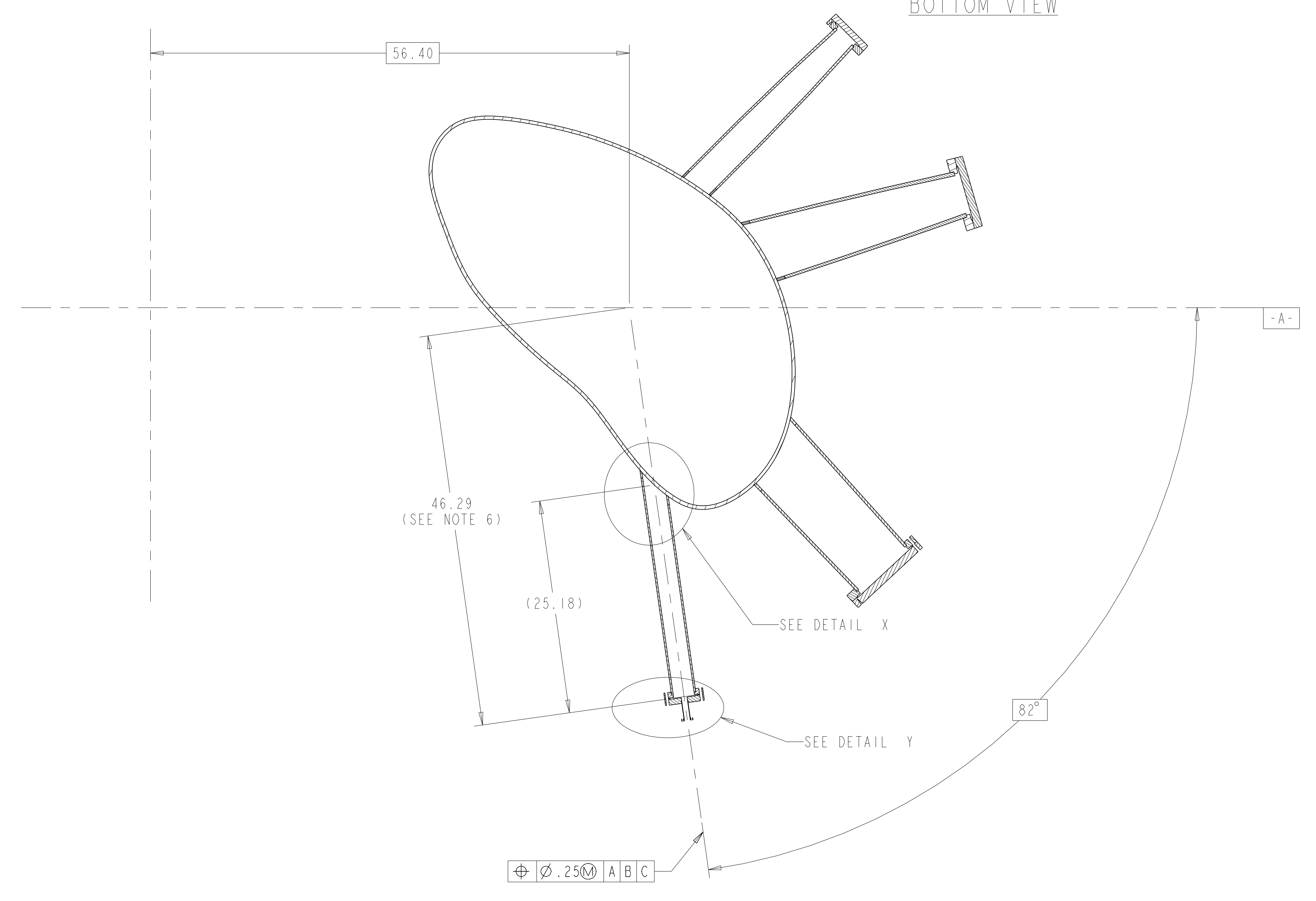
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SEI20-004

FOR PARTS LIST AND NOTES SEE SHEET 1.



BOTTOM VIEW



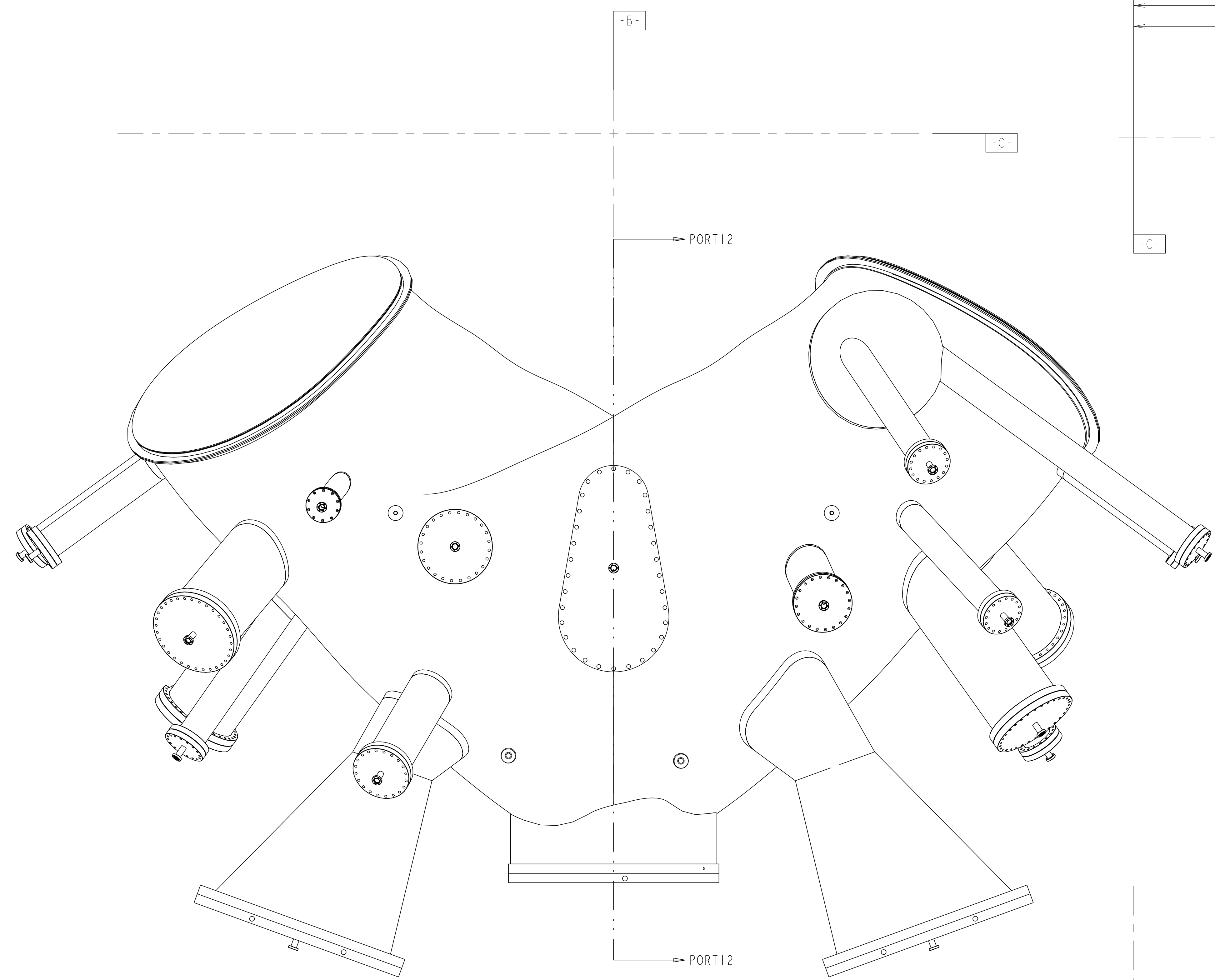
TYPICAL PORT IIA AND IIB SECTION PORT III-PORT III

UT-BATTELLE		Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC, Oak Ridge, Tennessee					
NATIONAL COMPACT STELLARATOR EXPERIMENT							
VACUUM VESSEL PERIOD INSPECTION AND LEAK CHECK ASSEMBLY							
VERSION NO.	PLANT	BLDG	FL	SHT OF	TYPE	CLASS	
1	X-10	5700	3	12 19	A	U	
RELEASE LEVEL	SEI20-004					REV	2
WIP							

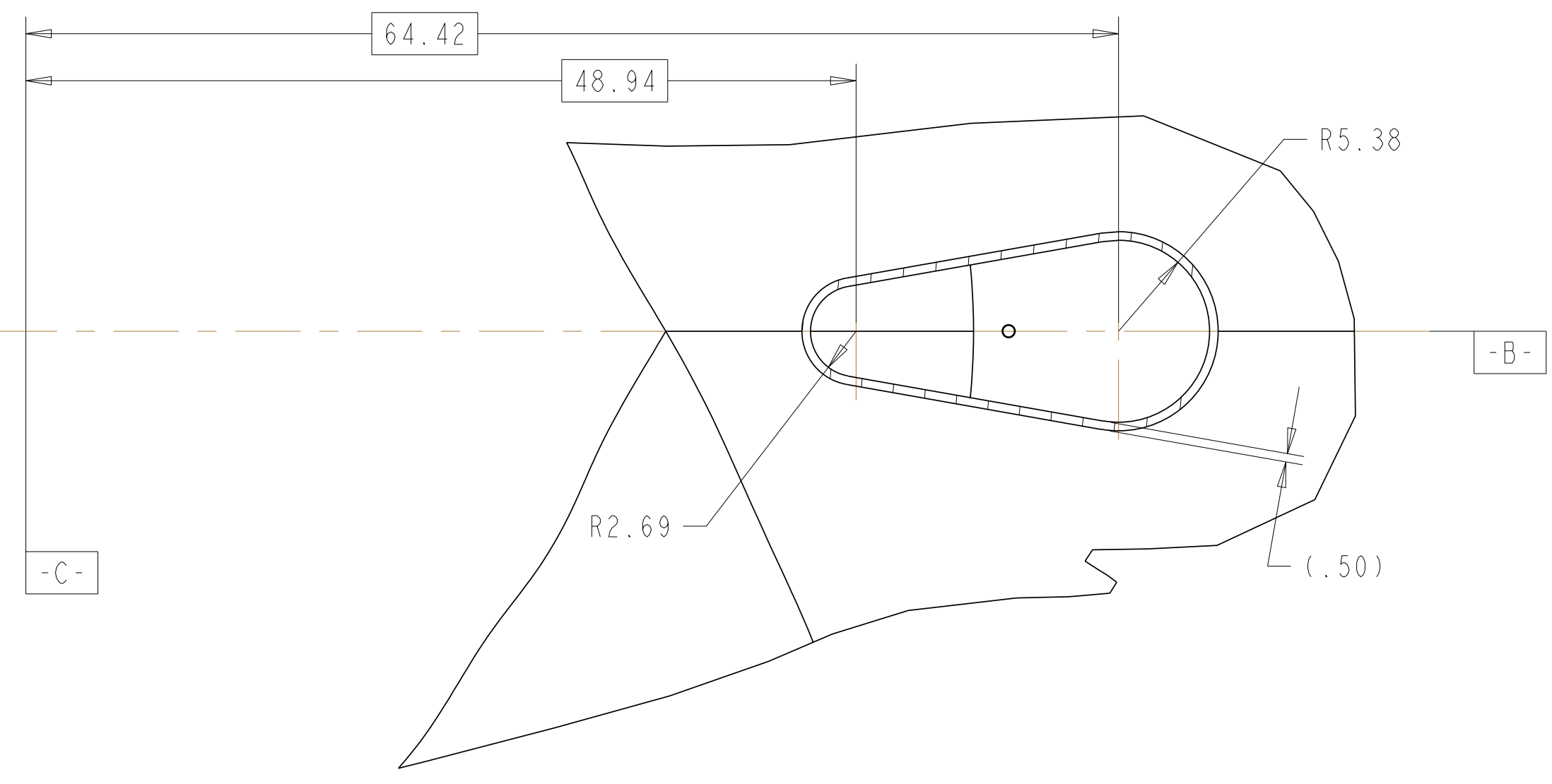
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SEI20-004

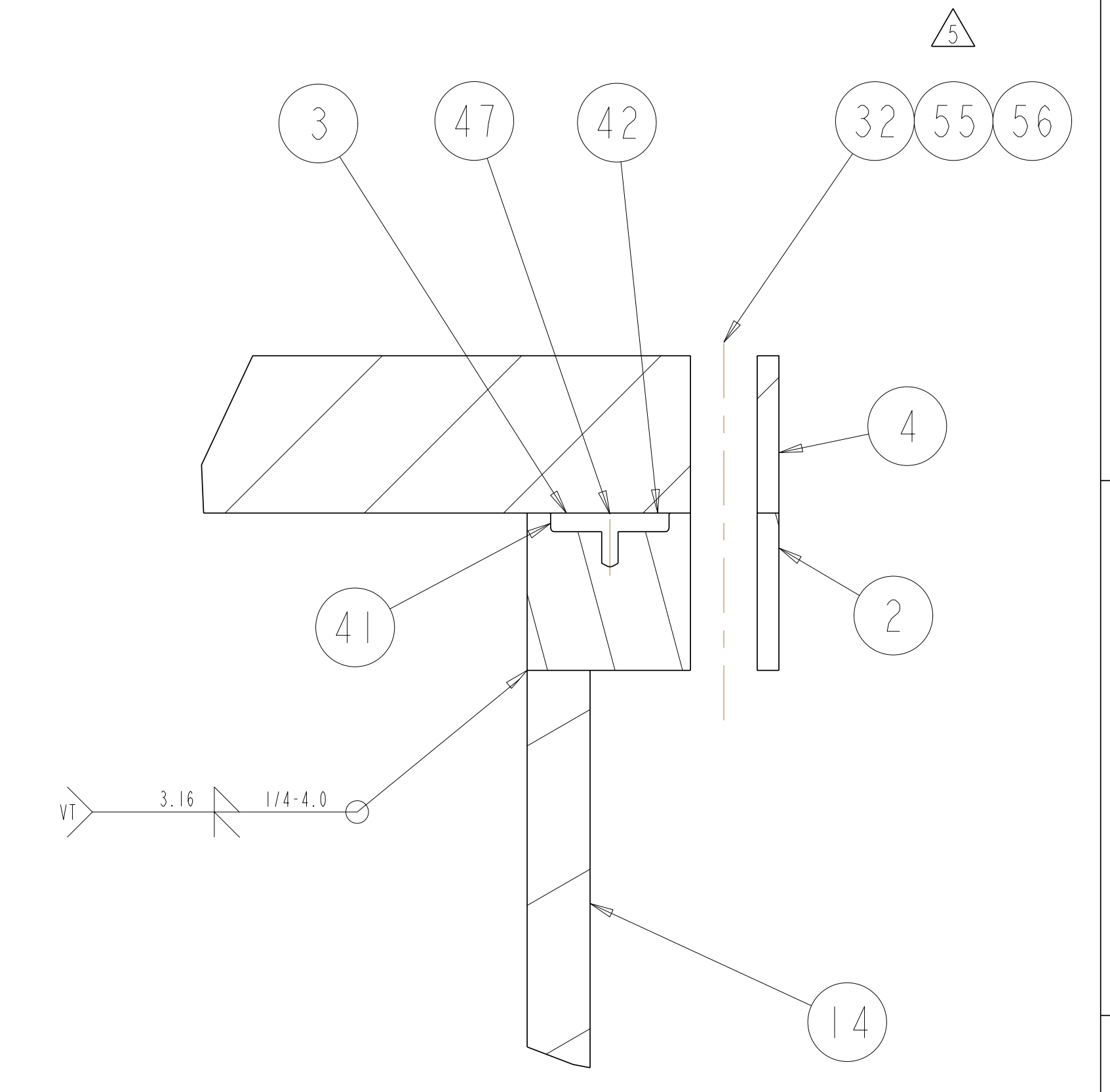
FOR PARTS LIST AND NOTES SEE SHEET 1.



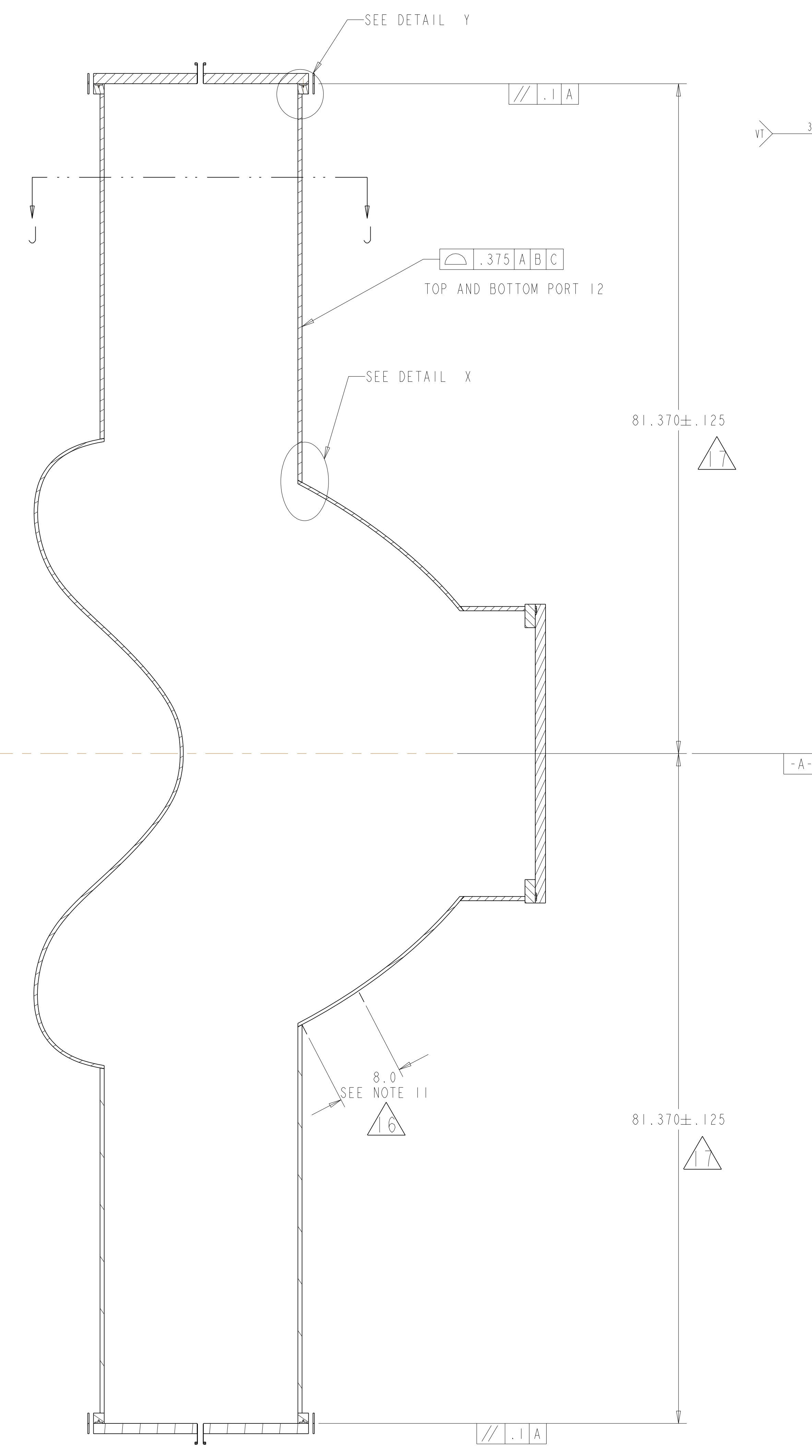
TOP VIEW



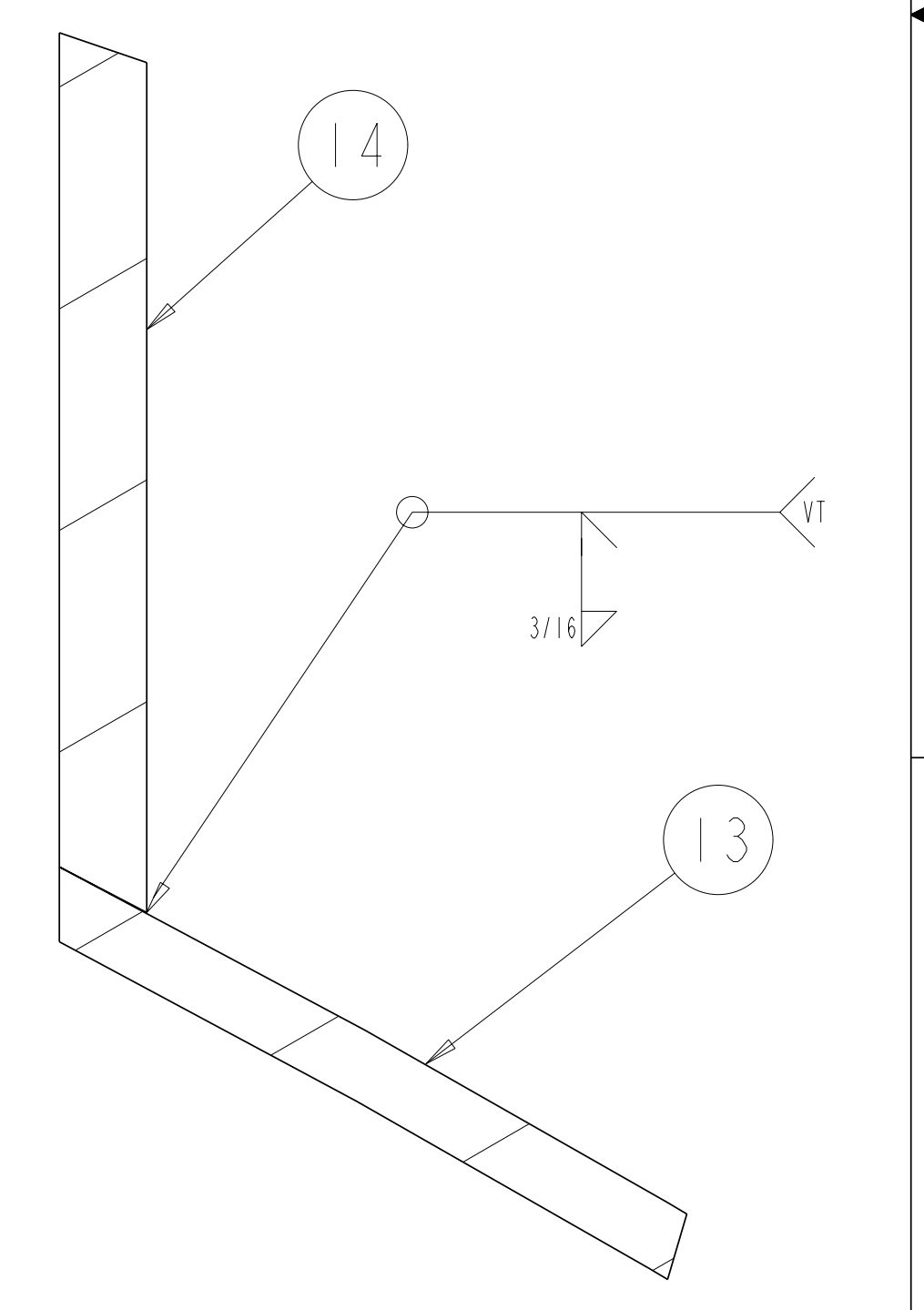
SECTION J-J  
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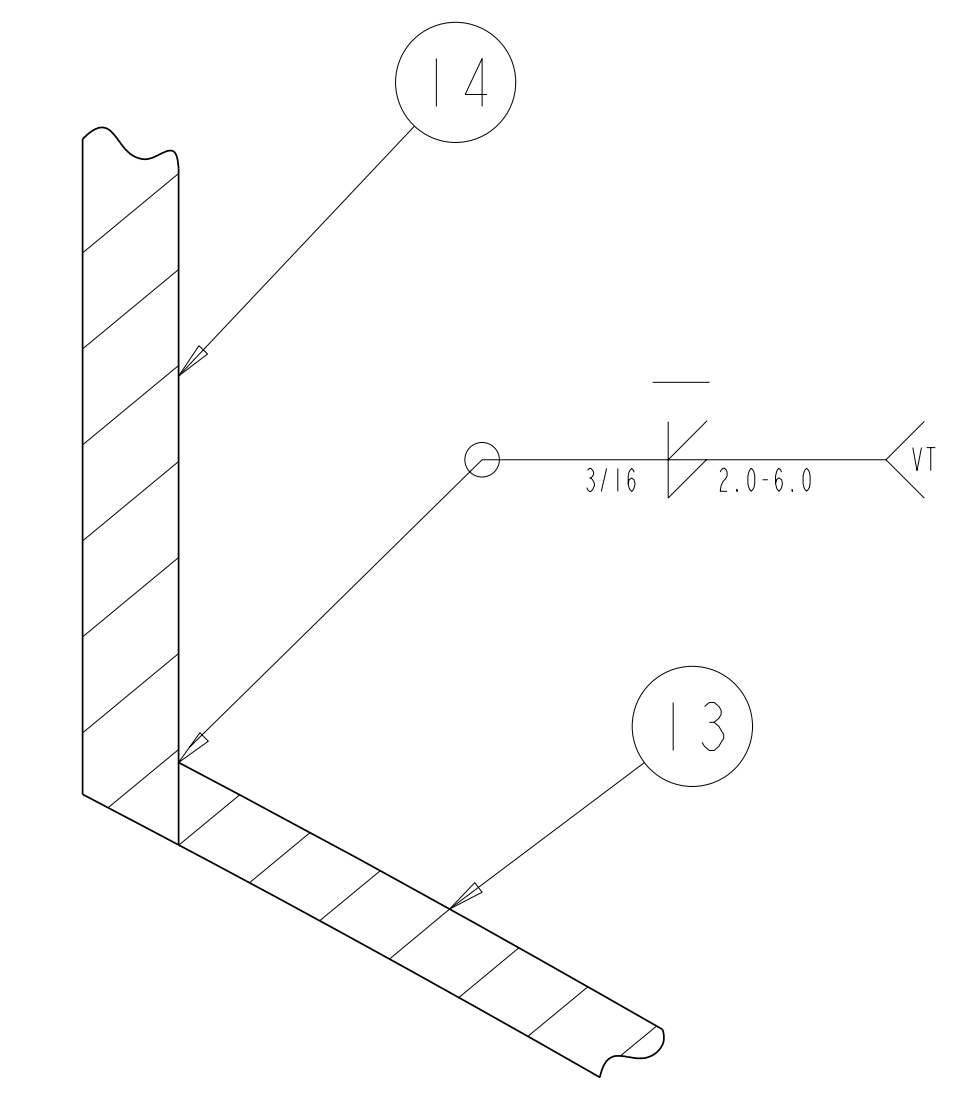
DETAIL Y  
 SCALE 1.00



SECTION PORT12-PORT12



DETAIL X  
 SCALE 1.00

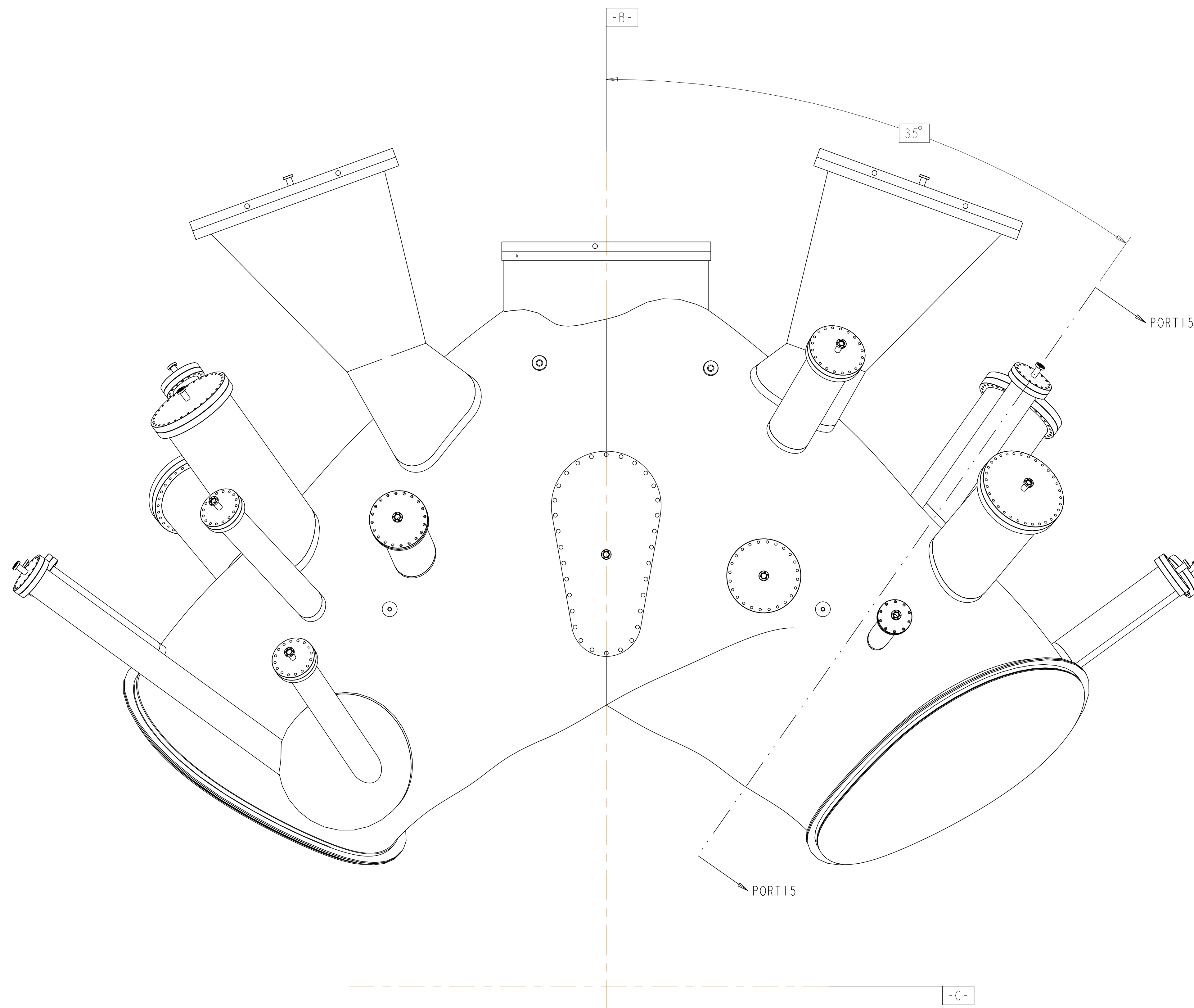


OPTIONAL WELD DETAIL

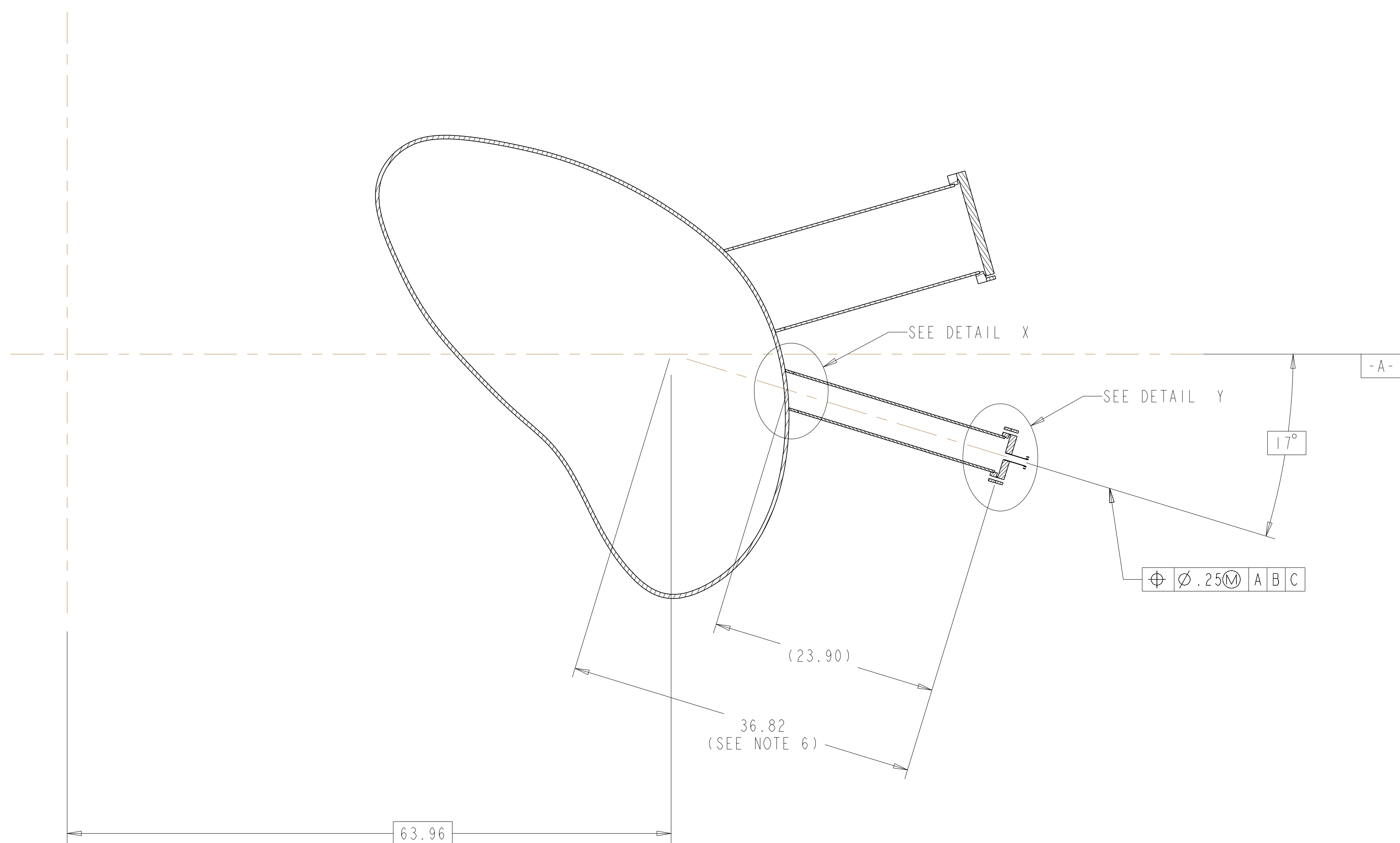
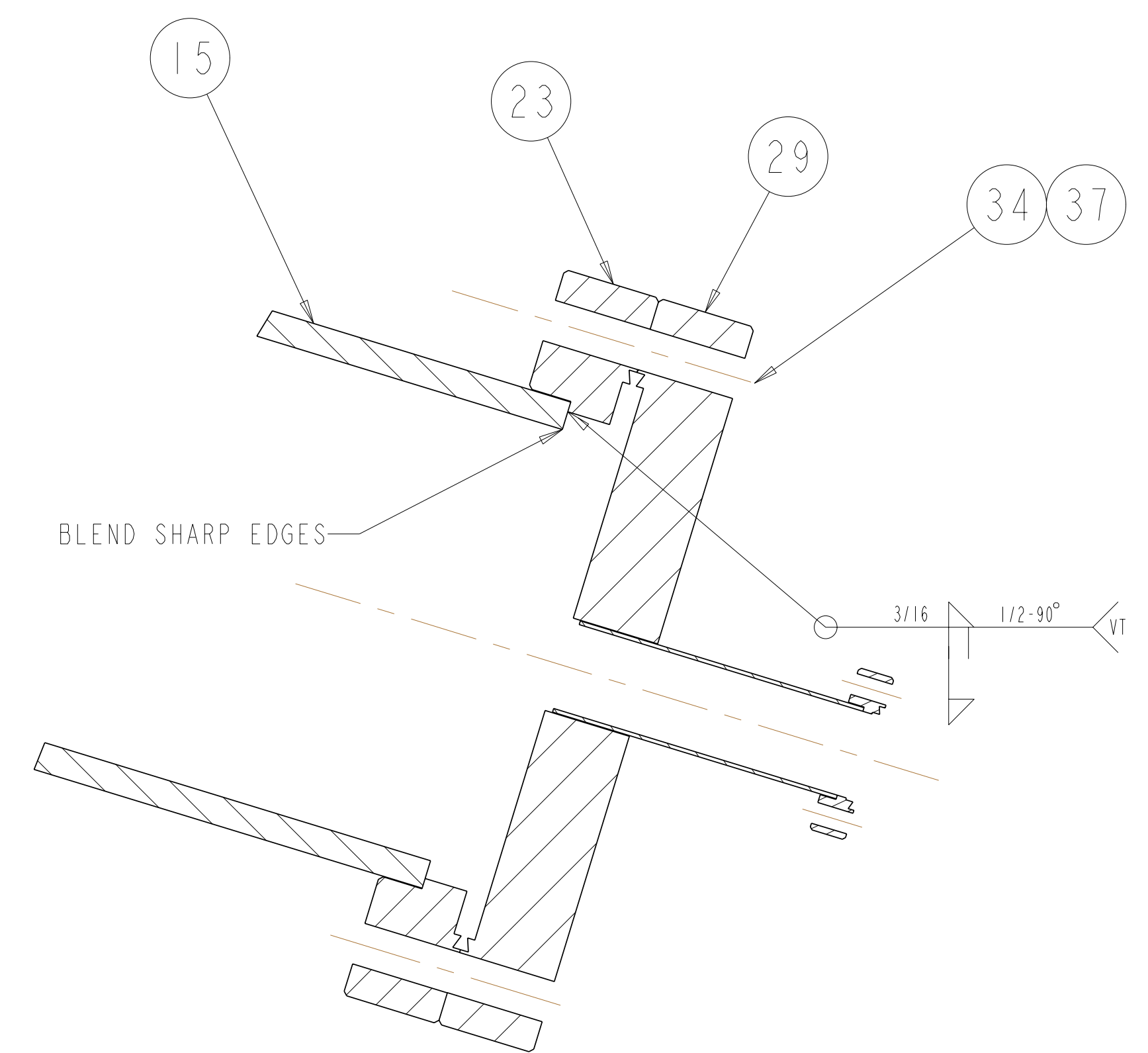
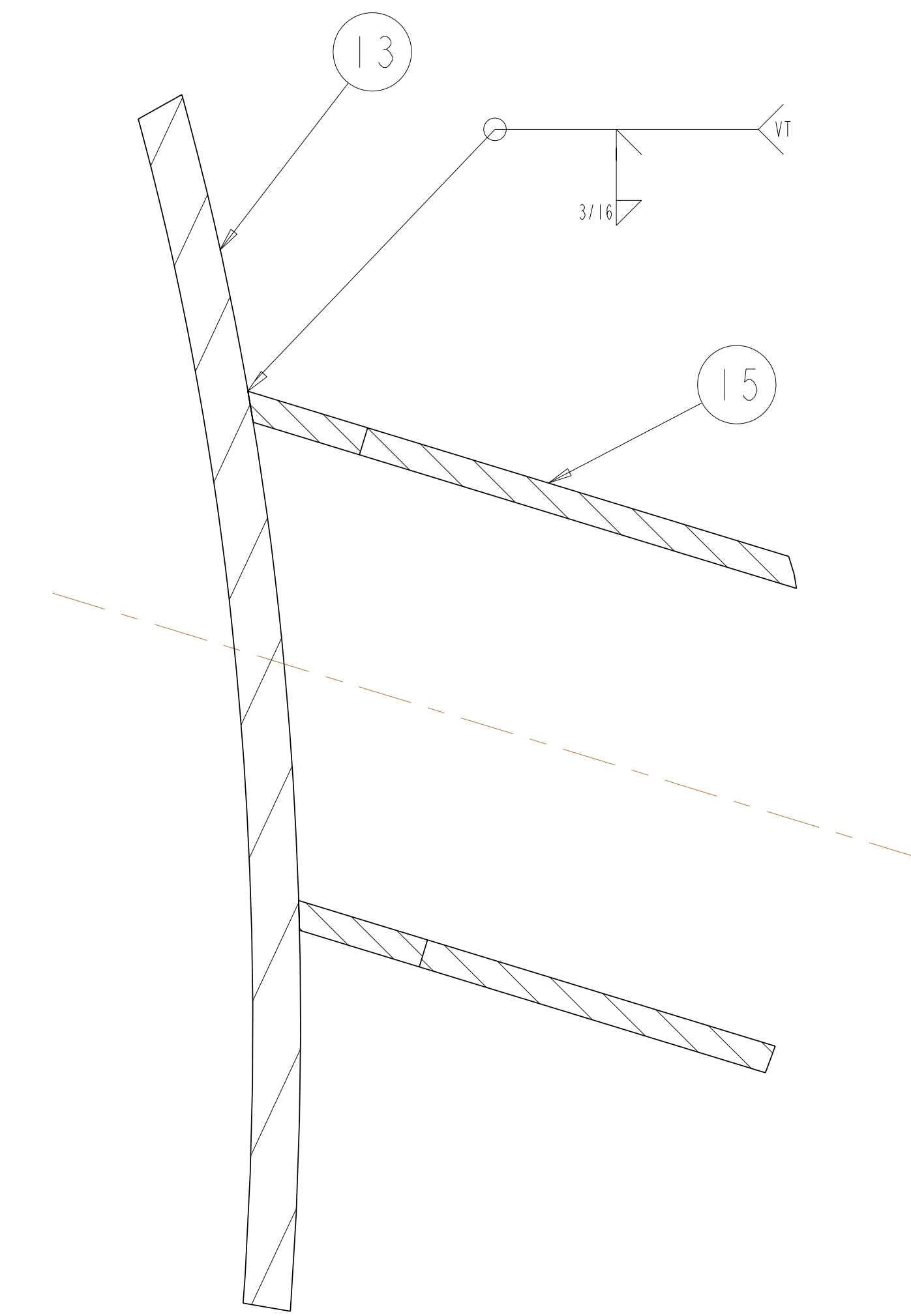
UT-BATTELLE		Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC, Oak Ridge, Tennessee					
NATIONAL COMPACT STELLARATOR EXPERIMENT							
VACUUM VESSEL							
PERIOD INSPECTION AND LEAK CHECK							
ASSEMBLY							
VERSION NO.	PLANT	BLDG	FL	SHT OF	TYPE	CLASS	
1	X-10	5700	3	13 19	A	U	
RELEASE LEVEL	SEI20-004						REV
WIP							2

SEI20-004

FOR PARTS LIST AND NOTES SEE SHEET 1.



BOTTOM VIEW



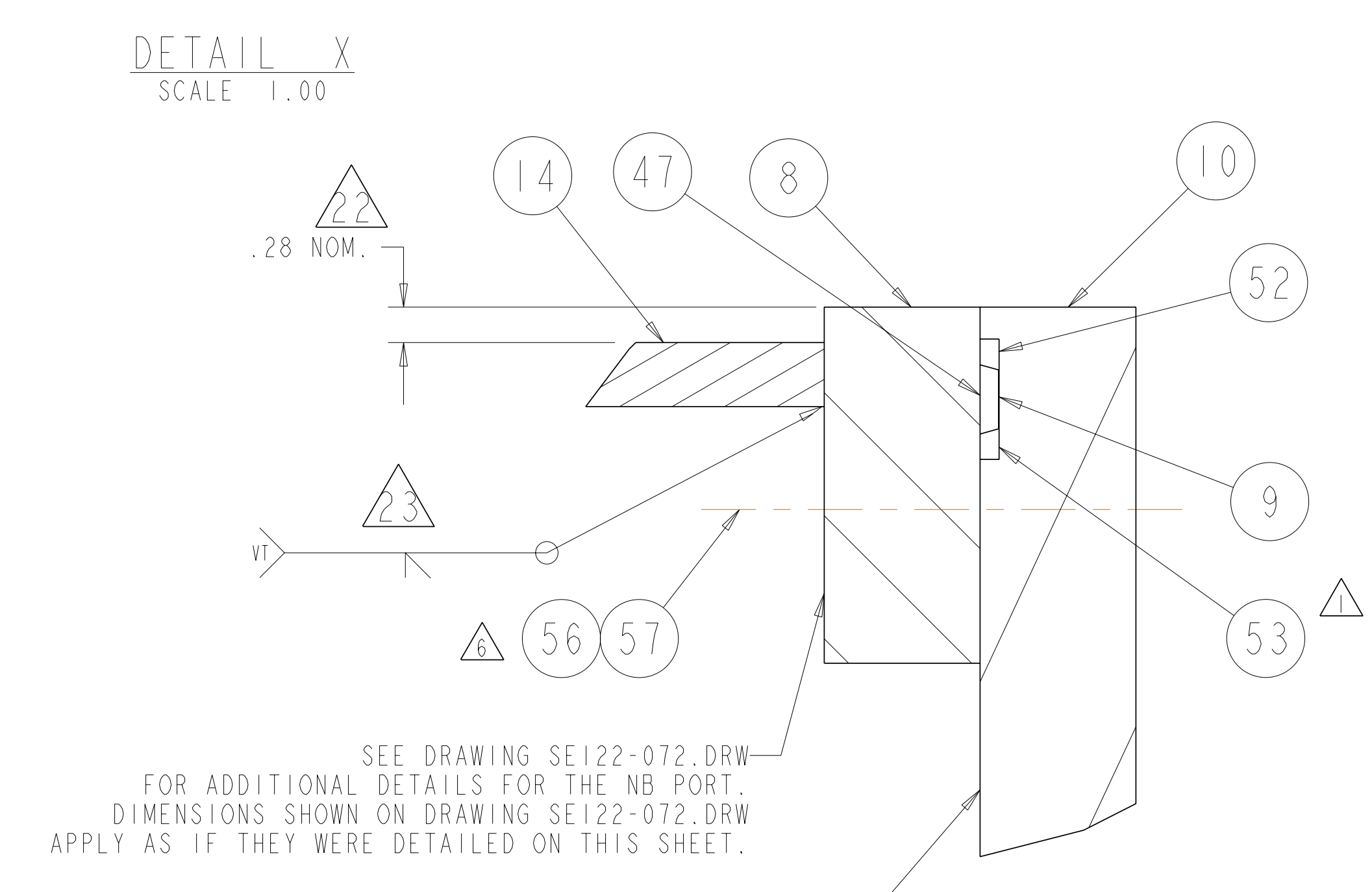
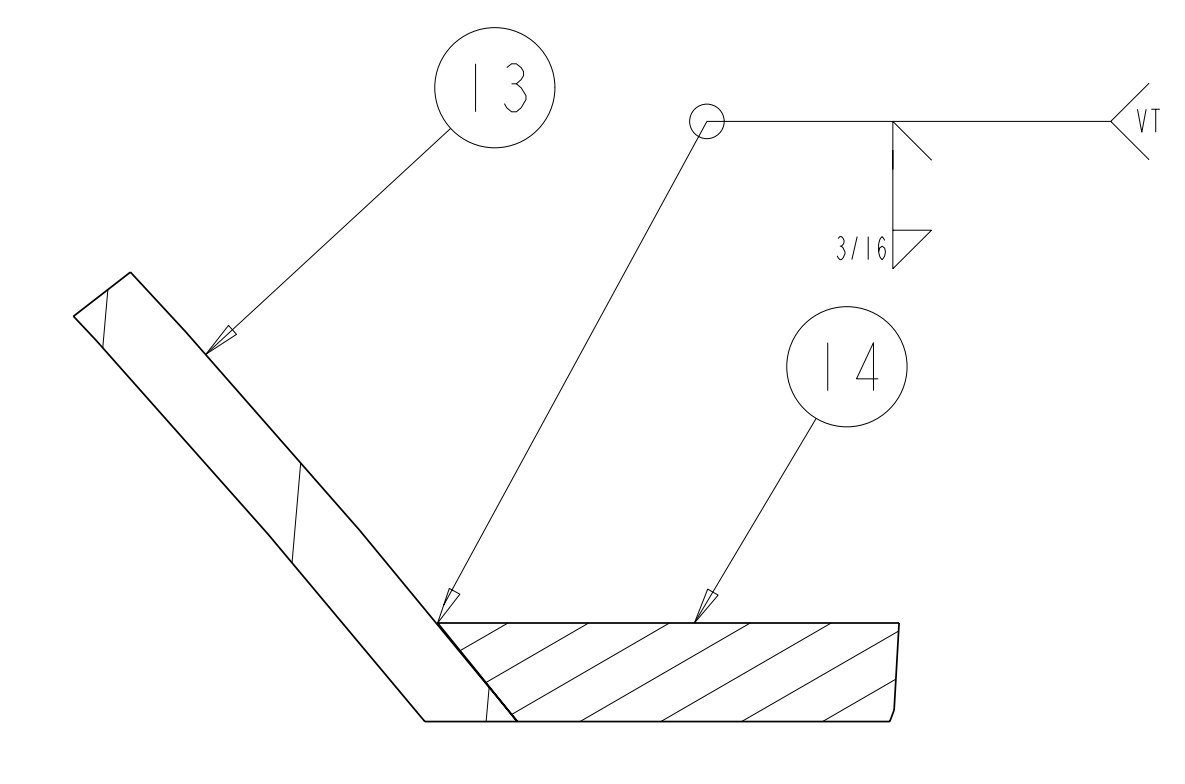
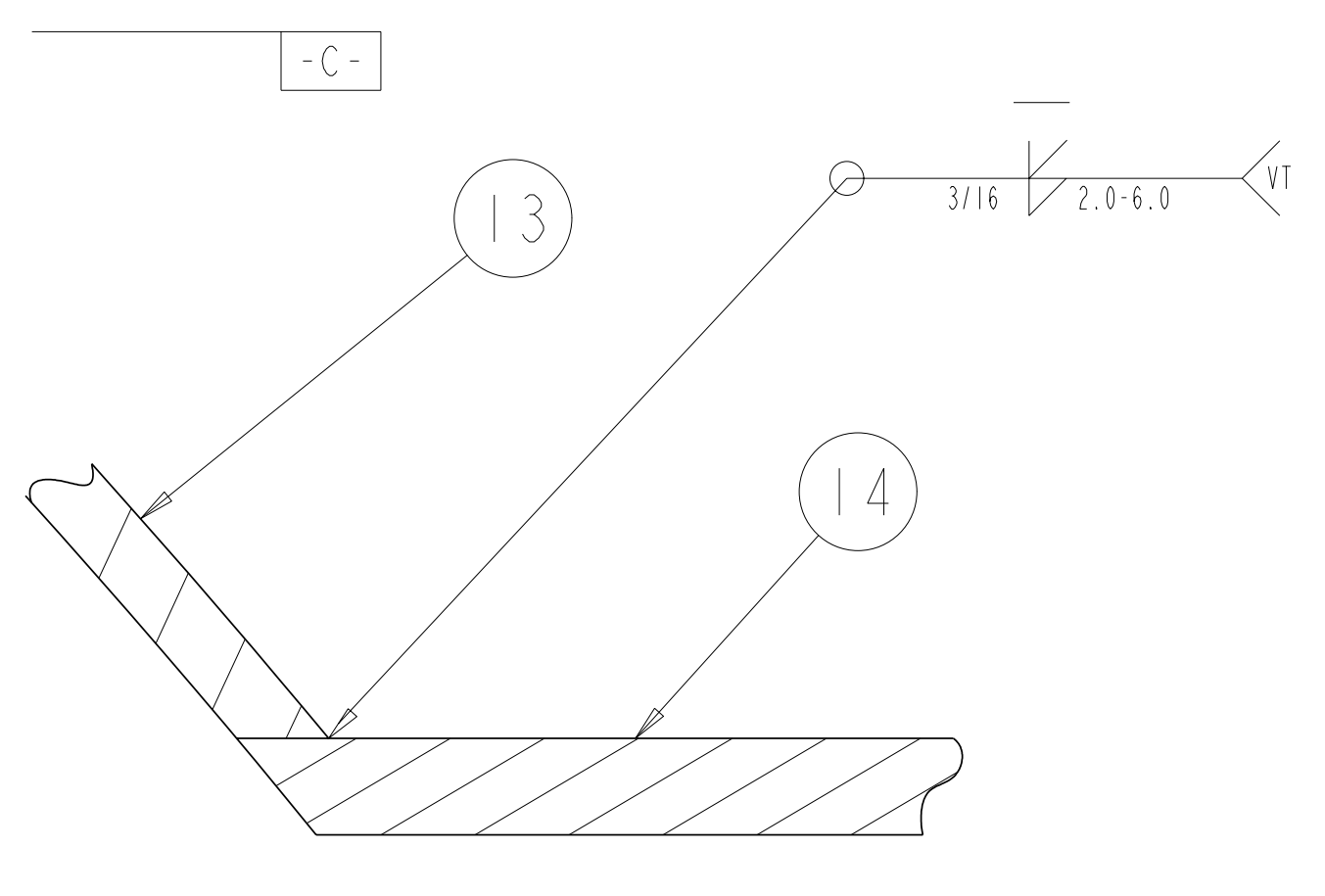
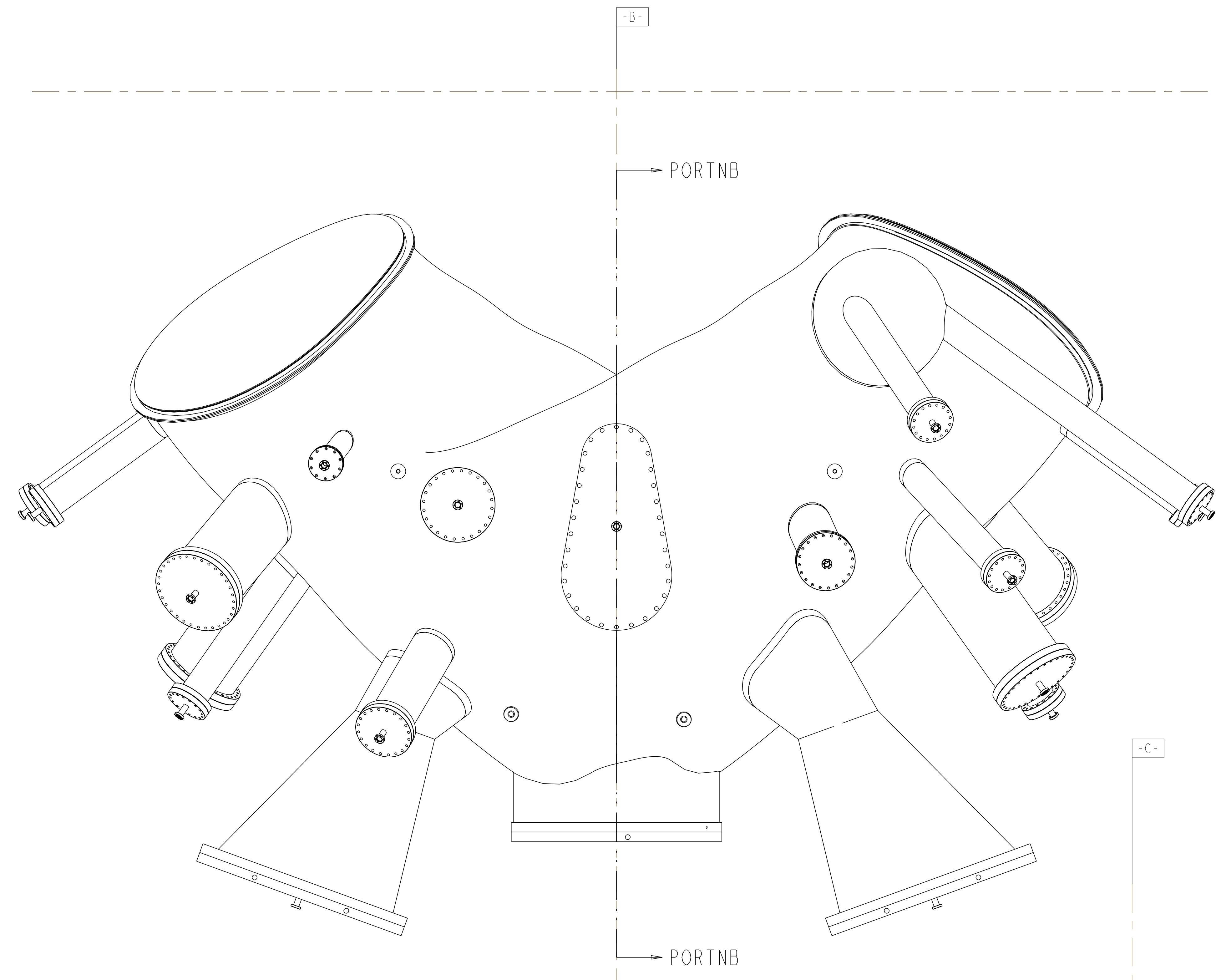
TYPICAL PORT 15A AND 15B  
SECTION PORT15-PORT15

UT-BATTELLE		Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC, Oak Ridge, Tennessee					
PROJECT NAME							
NATIONAL COMPACT STELLARATOR EXPERIMENT							
VACUUM VESSEL							
PERIOD INSPECTION AND LEAK CHECK							
ASSEMBLY							
VERSION NO.	PLANT	BLDG	FL	SHT OF	TYPE	CLASS	
1	X-10	5700	3	14 19	A	U	
RELEASE LEVEL		SE120-004				REV	2
WIP							

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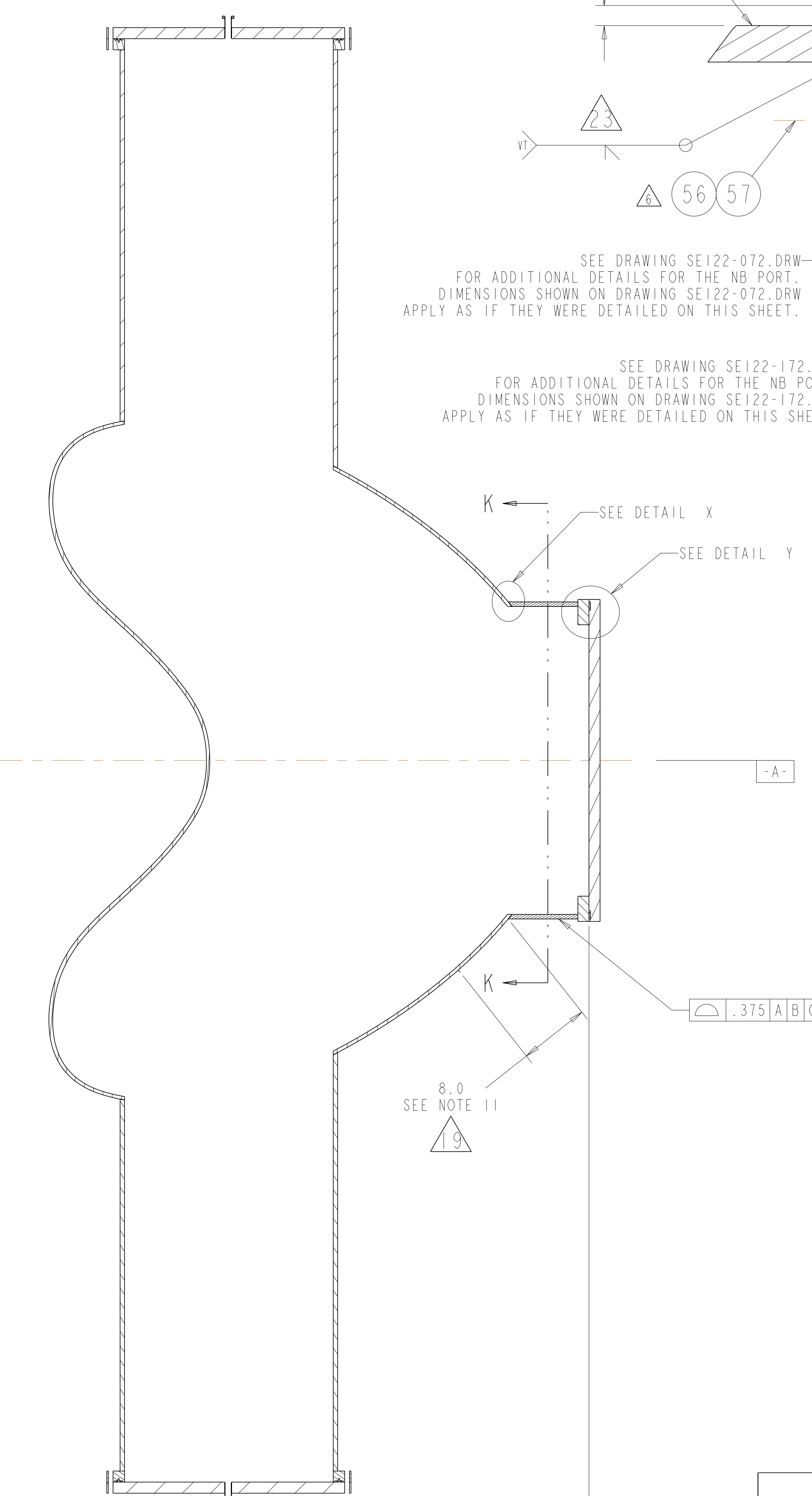
SE120-004

FOR PARTS LIST AND NOTES SEE SHEET 1

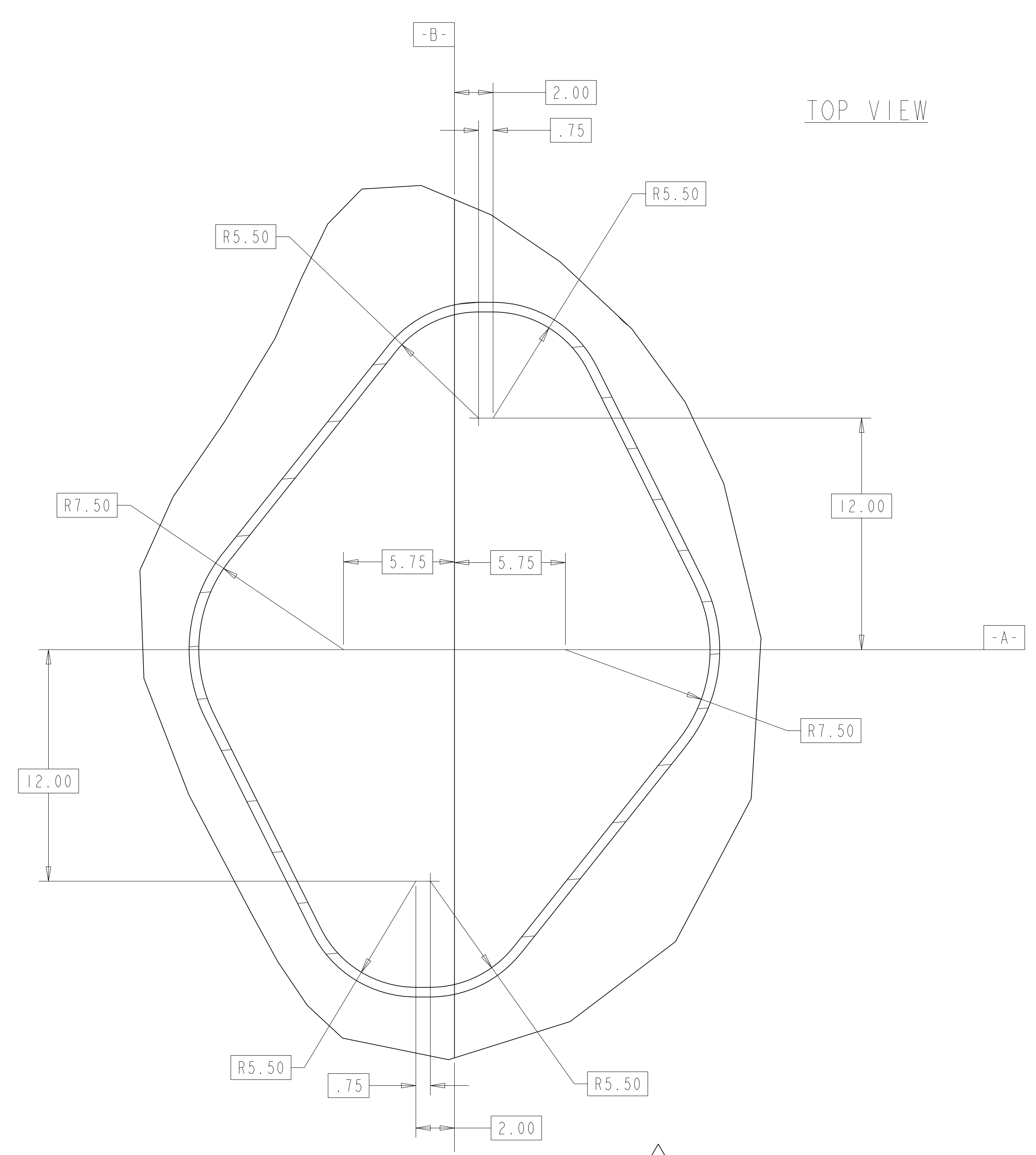


SEE DRAWING SE122-072.DRW FOR ADDITIONAL DETAILS FOR THE NB PORT. DIMENSIONS SHOWN ON DRAWING SE122-072.DRW APPLY AS IF THEY WERE DETAILED ON THIS SHEET.

SEE DRAWING SE122-172.DRW FOR ADDITIONAL DETAILS FOR THE NB PORT. DIMENSIONS SHOWN ON DRAWING SE122-172.DRW APPLY AS IF THEY WERE DETAILED ON THIS SHEET.



SECTION PORTNB-PORTNB

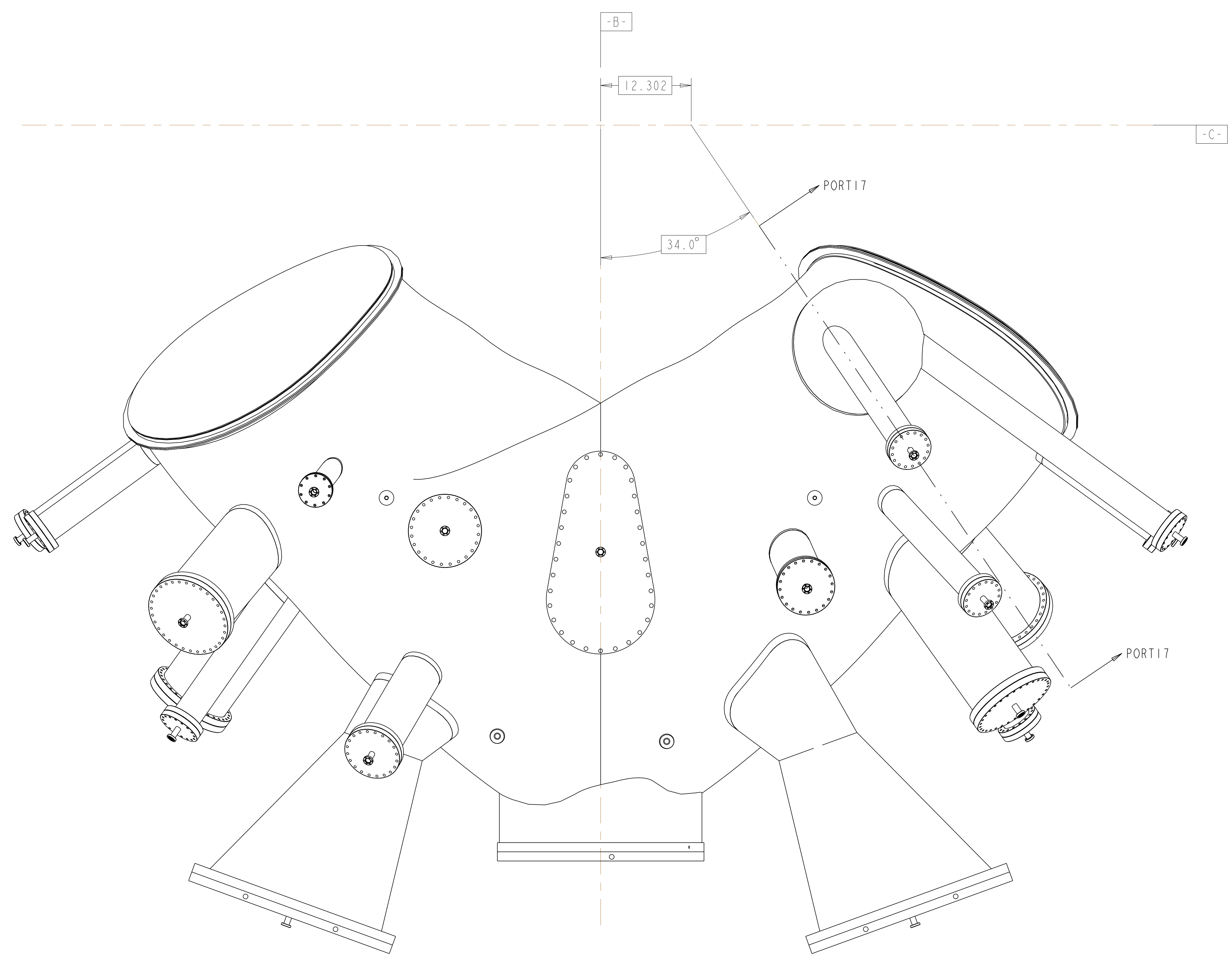


SECTION K-K

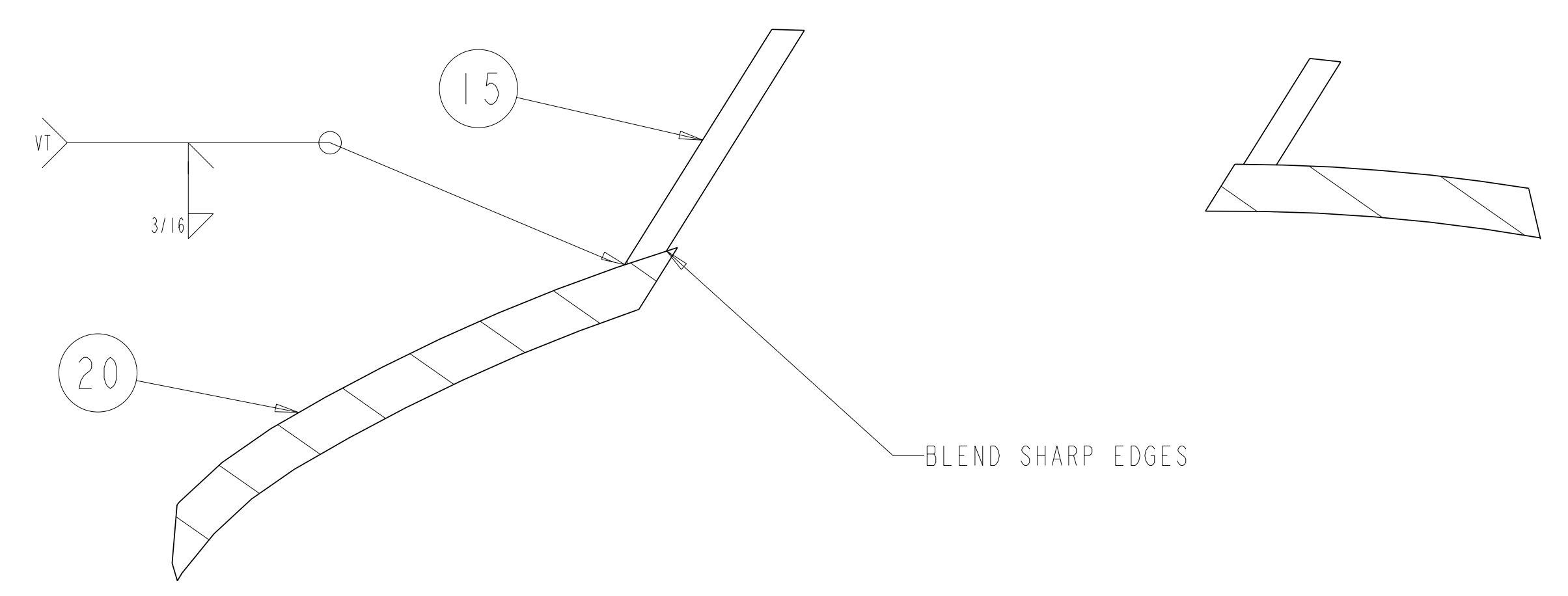
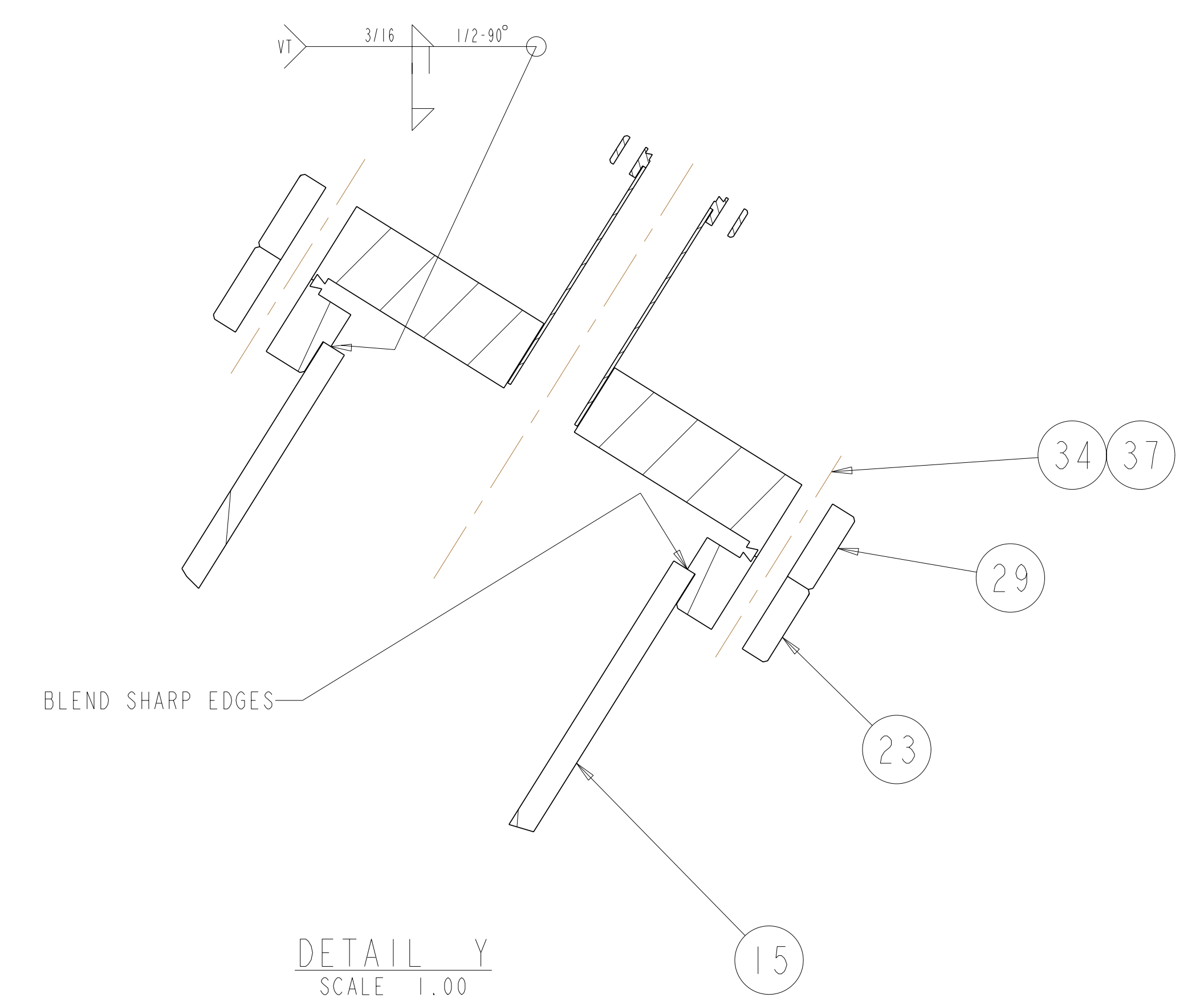
Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC, Oak Ridge, Tennessee PROJECT NAME						
<b>NATIONAL COMPACT STELLARATOR EXPERIMENT</b> VACUUM VESSEL PERIOD INSPECTION AND LEAK CHECK ASSEMBLY						
VERSION NO.	PLANT	BLDG	FL	SHT OF	TYPE	CLASS
1	X-10	5700	3	15 19	A	U
RELEASE LEVEL	SE120-004					REV
WIP						2

SE120-004

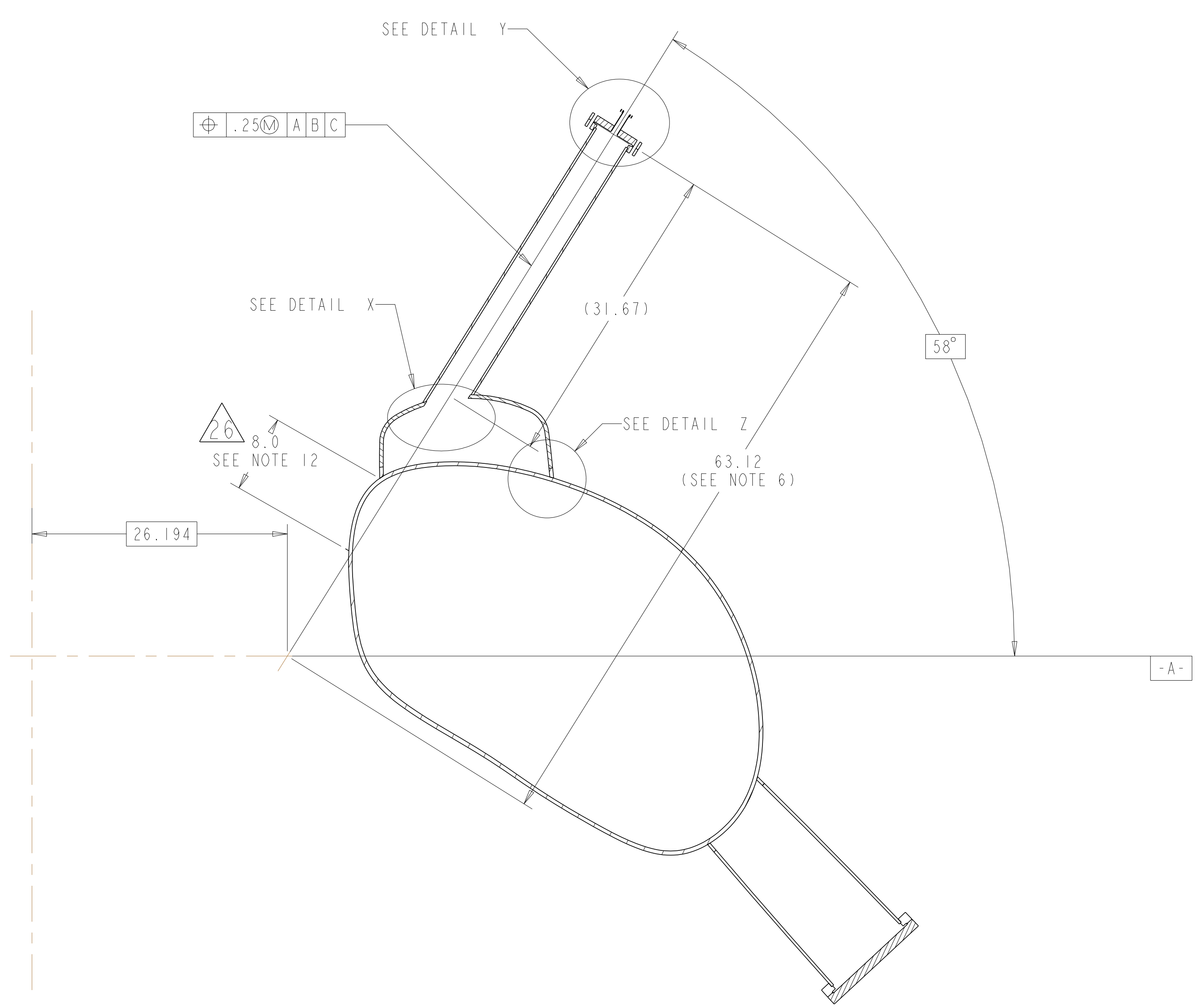
FOR PARTS LIST AND NOTES SEE SHEET 1.



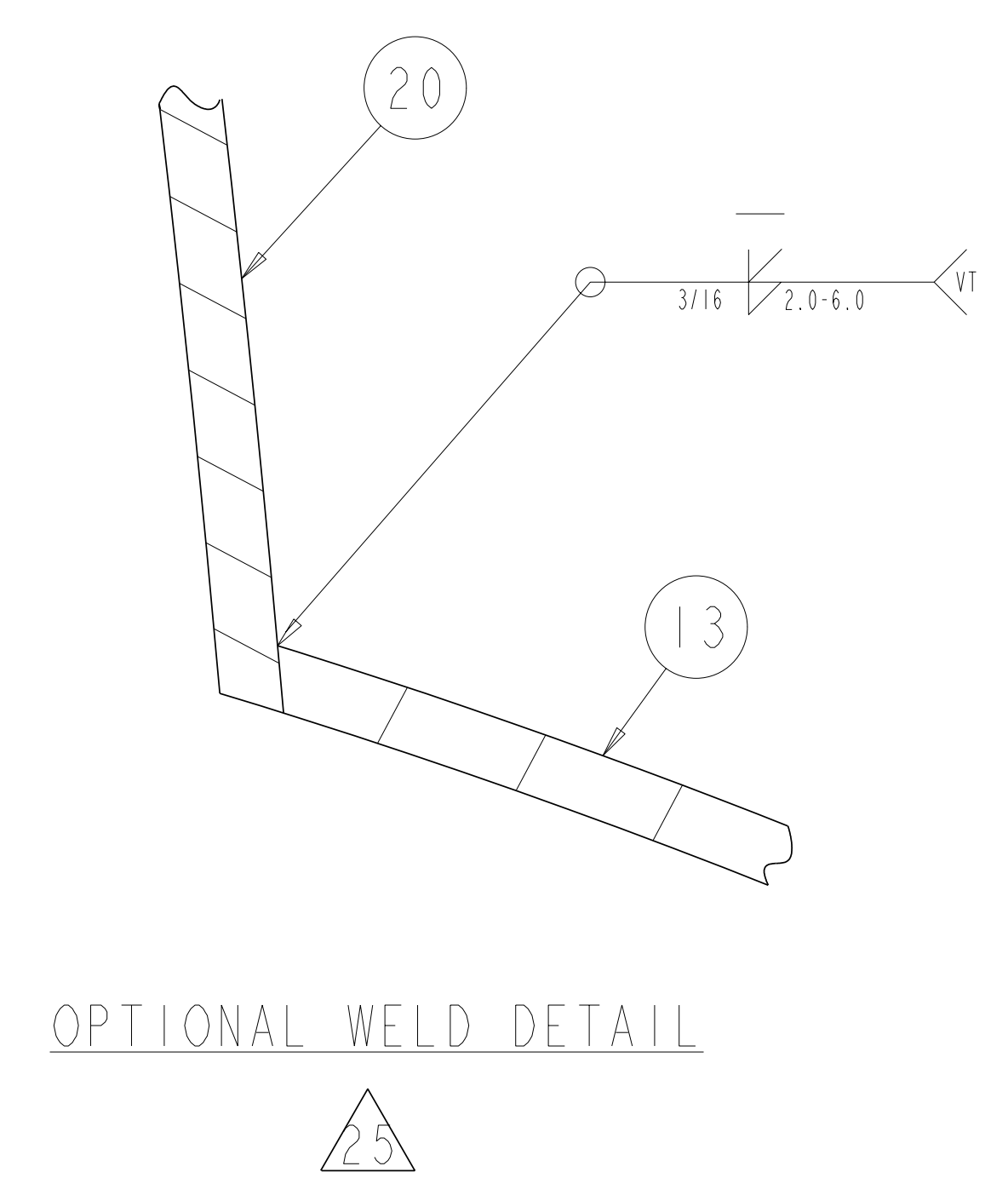
TOP VIEW



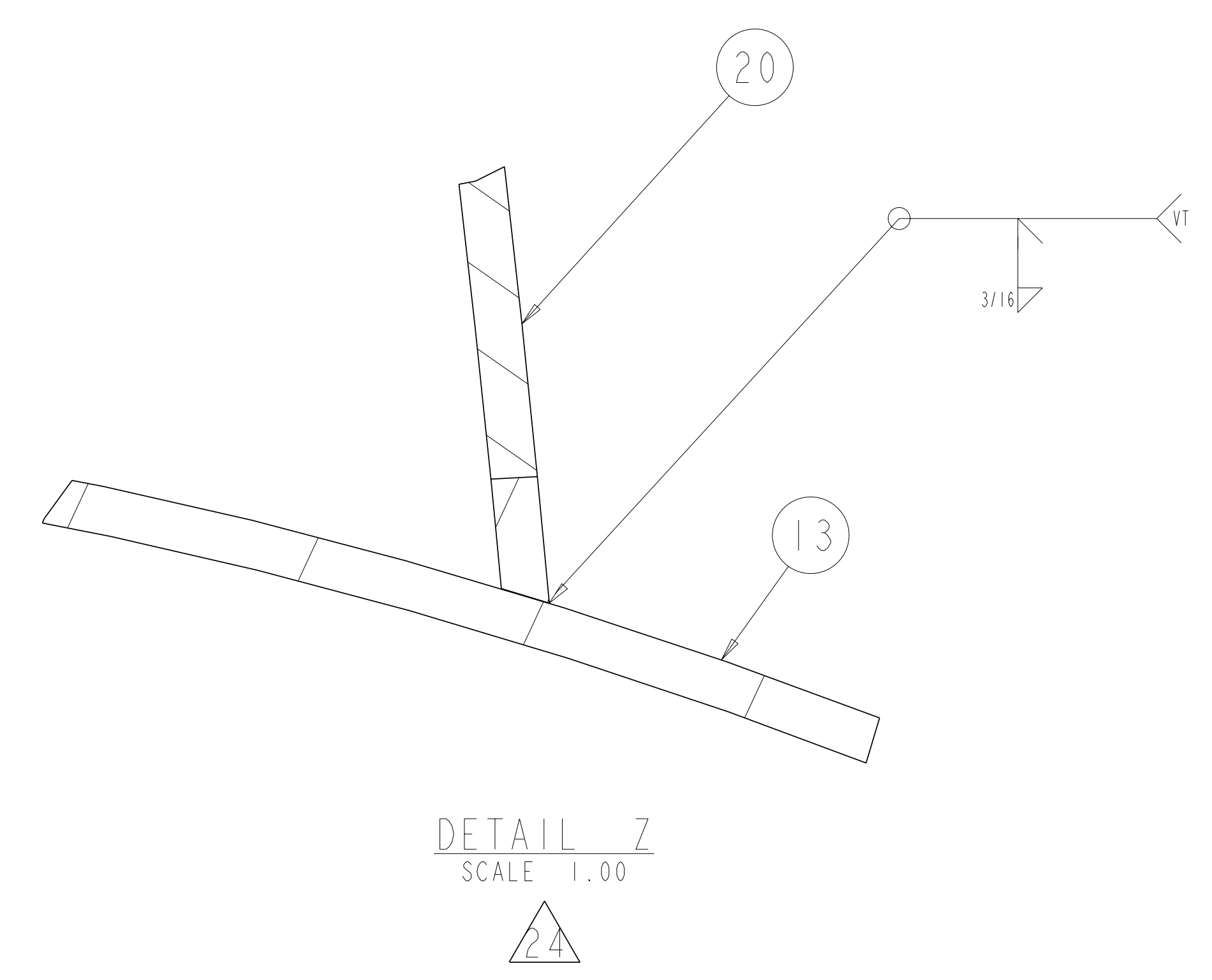
DETAIL X  
 SCALE 1.00



TYPICAL PORT 17A AND 17B  
 SECTION PORT17-PORT17



OPTIONAL WELD DETAIL



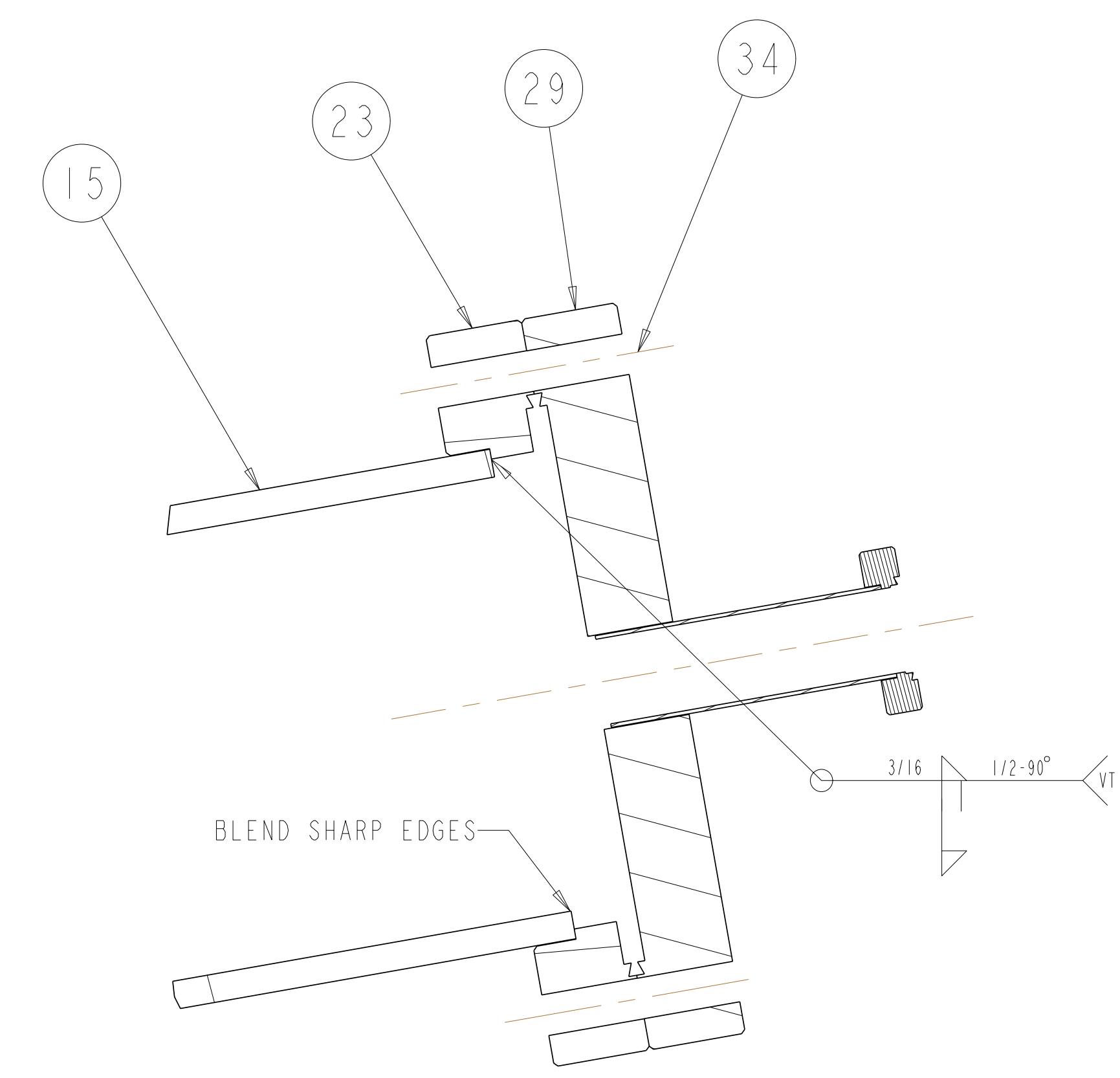
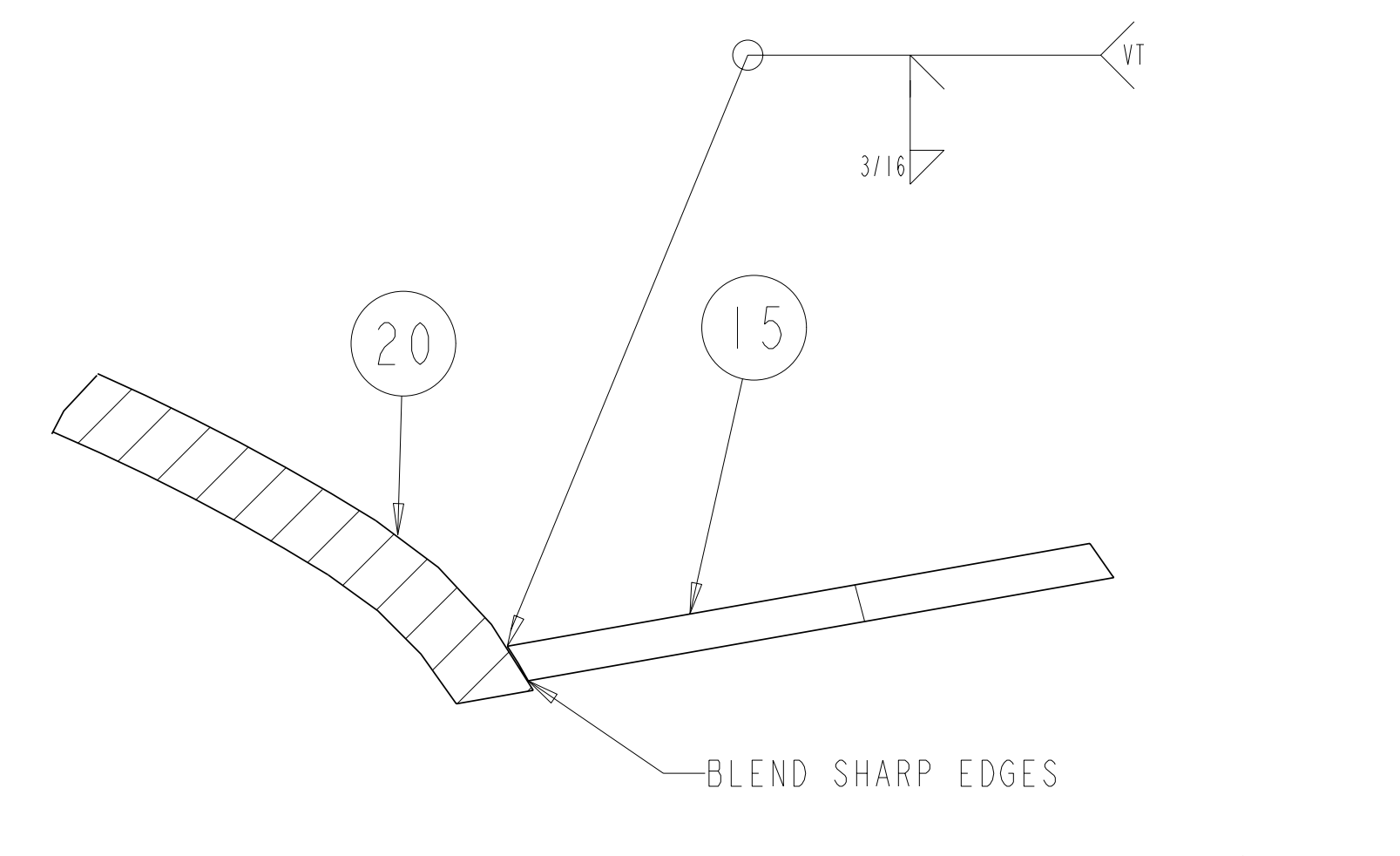
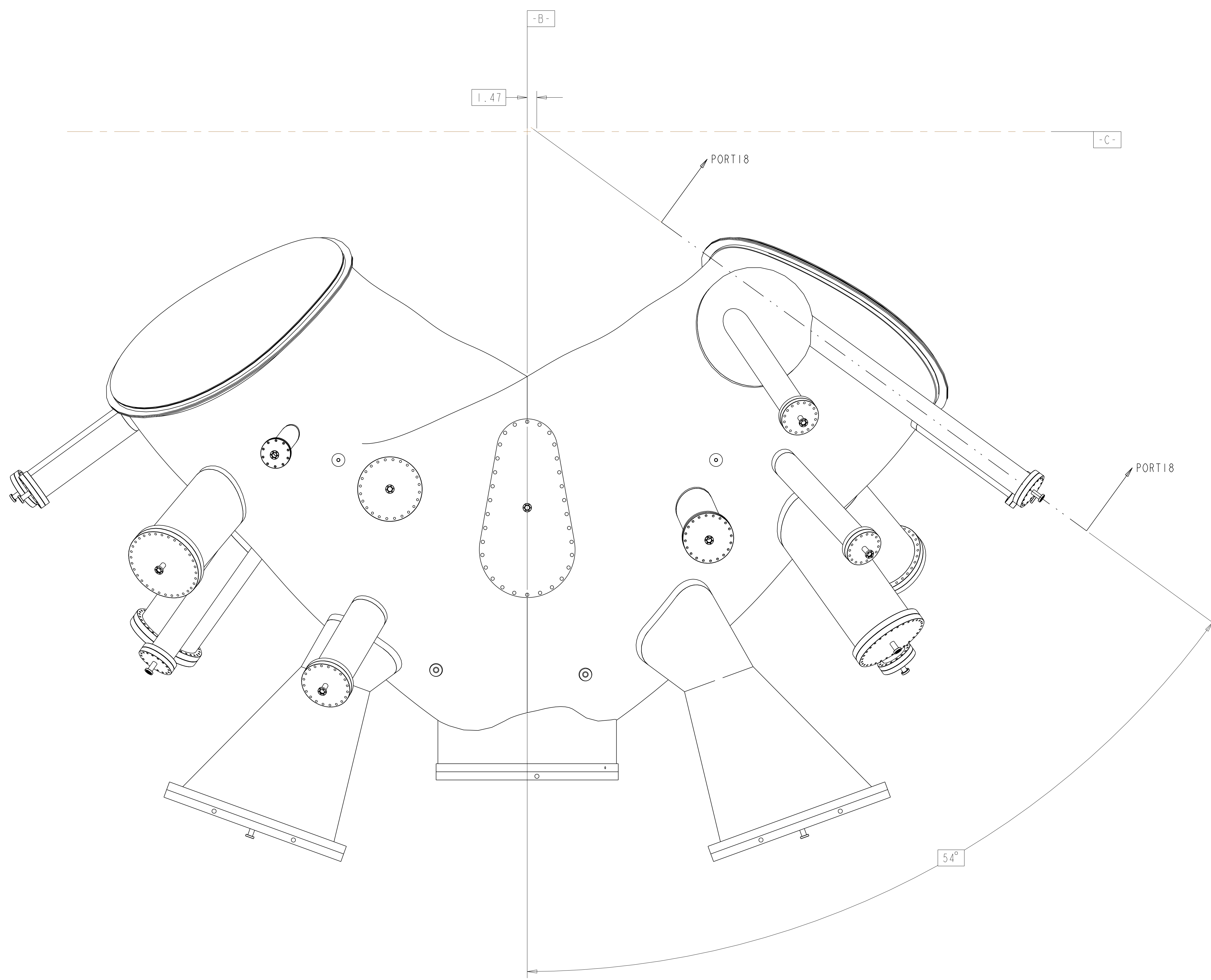
DETAIL Z  
 SCALE 1.00

Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC, Oak Ridge, Tennessee PROJECT NAME						
<b>UT-BATTELLE</b> NATIONAL COMPACT STELLARATOR EXPERIMENT VACUUM VESSEL PERIOD INSPECTION AND LEAK CHECK ASSEMBLY						
VERSION NO.	PLANT	BLDG	FL	SHT OF	TYPE	CLASS
1	X-10	5700	3	16 19	A	U
RELEASE LEVEL	SEI20-004					REV
WIP						2

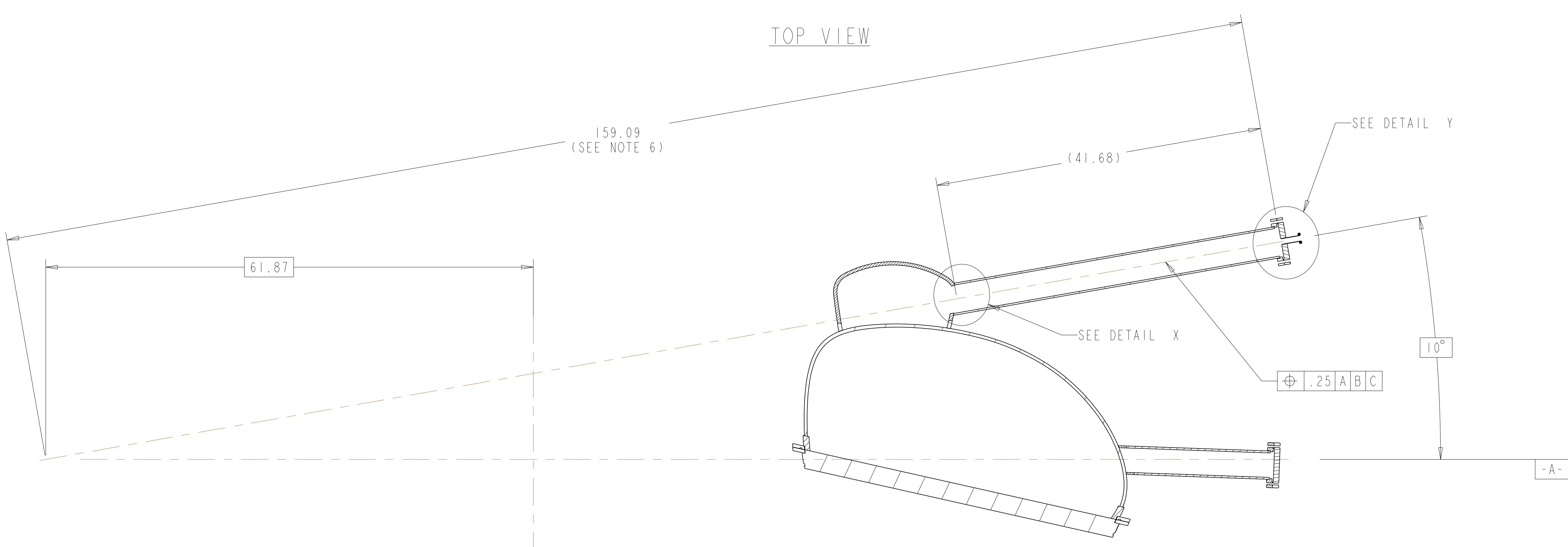
H  
 G  
 F  
 E  
 D  
 C  
 B  
 A  
 SEI20-004



FOR PARTS LIST AND NOTES SEE SHEET 1.



TOP VIEW

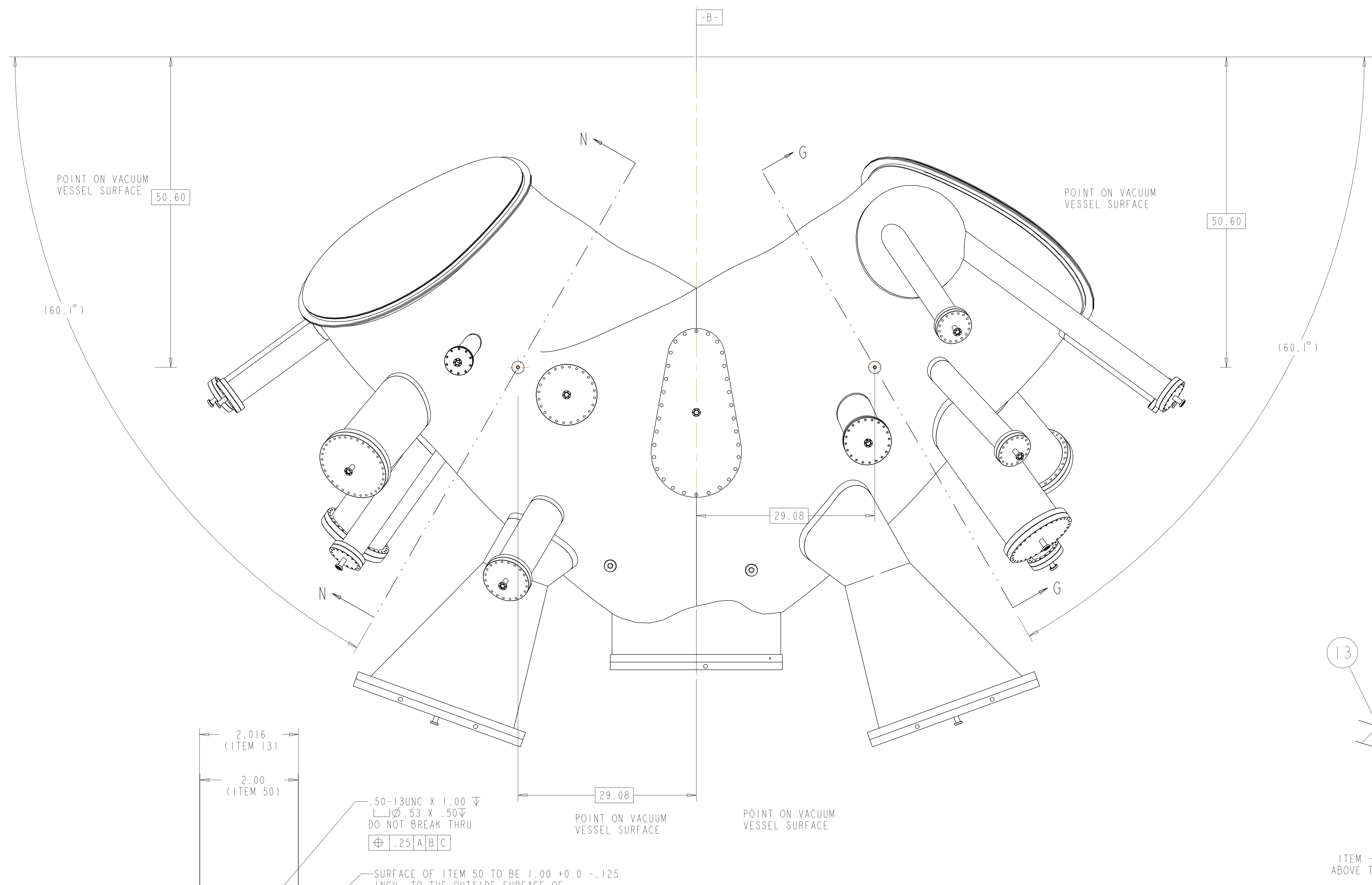


TYPICAL PORT 18A AND 18B  
 SECTION PORT18-PORT18

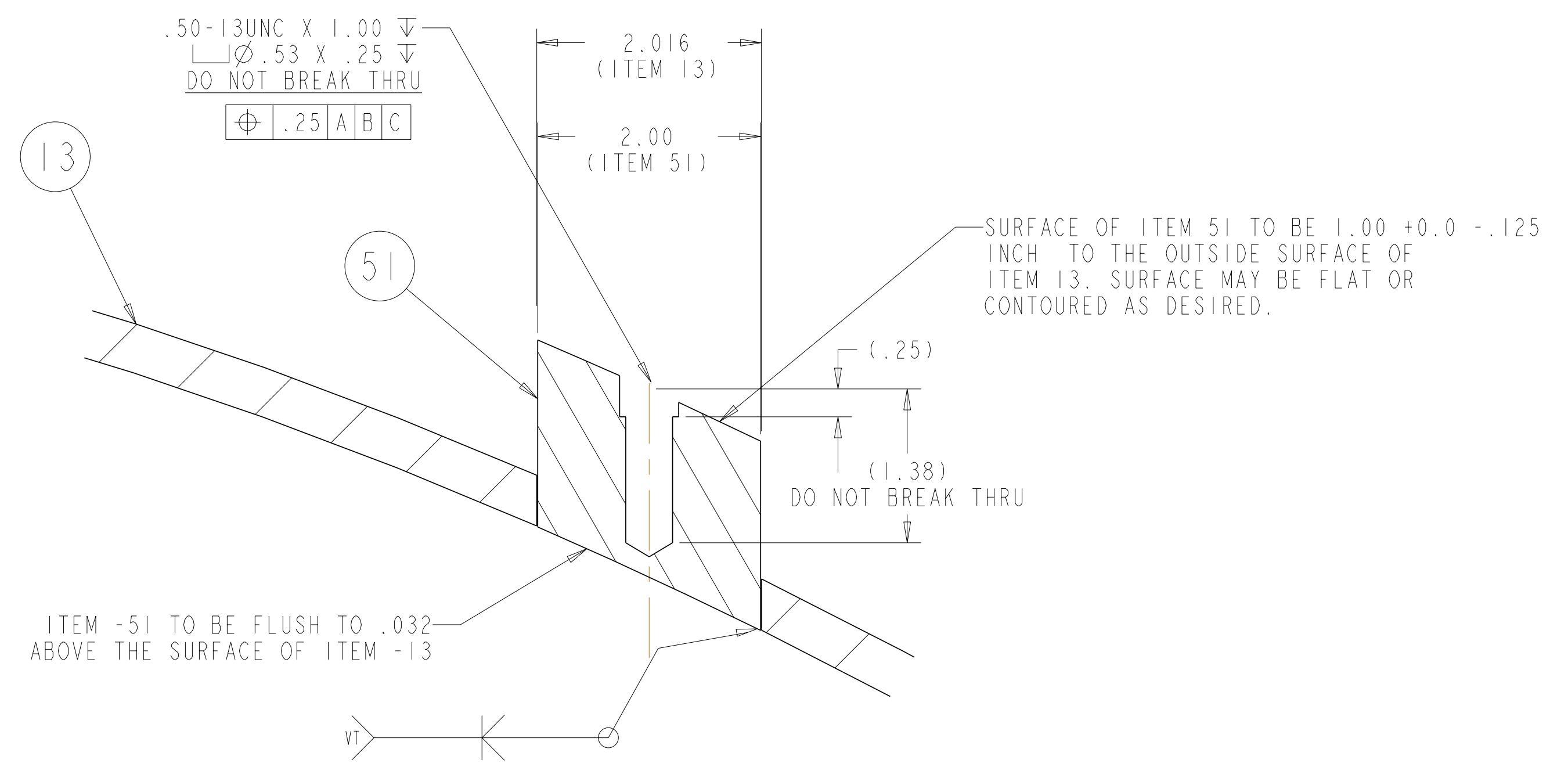
<b>UT-BATTELLE</b>		Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC, Oak Ridge, Tennessee	
<b>NATIONAL COMPACT STELLARATOR EXPERIMENT</b>			
<b>VACUUM VESSEL PERIOD INSPECTION AND LEAK CHECK ASSEMBLY</b>			
VERSION NO. 1	PLANT X-10	BLDG 5700	FL SHT OF TYPE CLASS 3 17 19 A U
RELEASE LEVEL WIP	SE120-004		REV 2

SE120-004

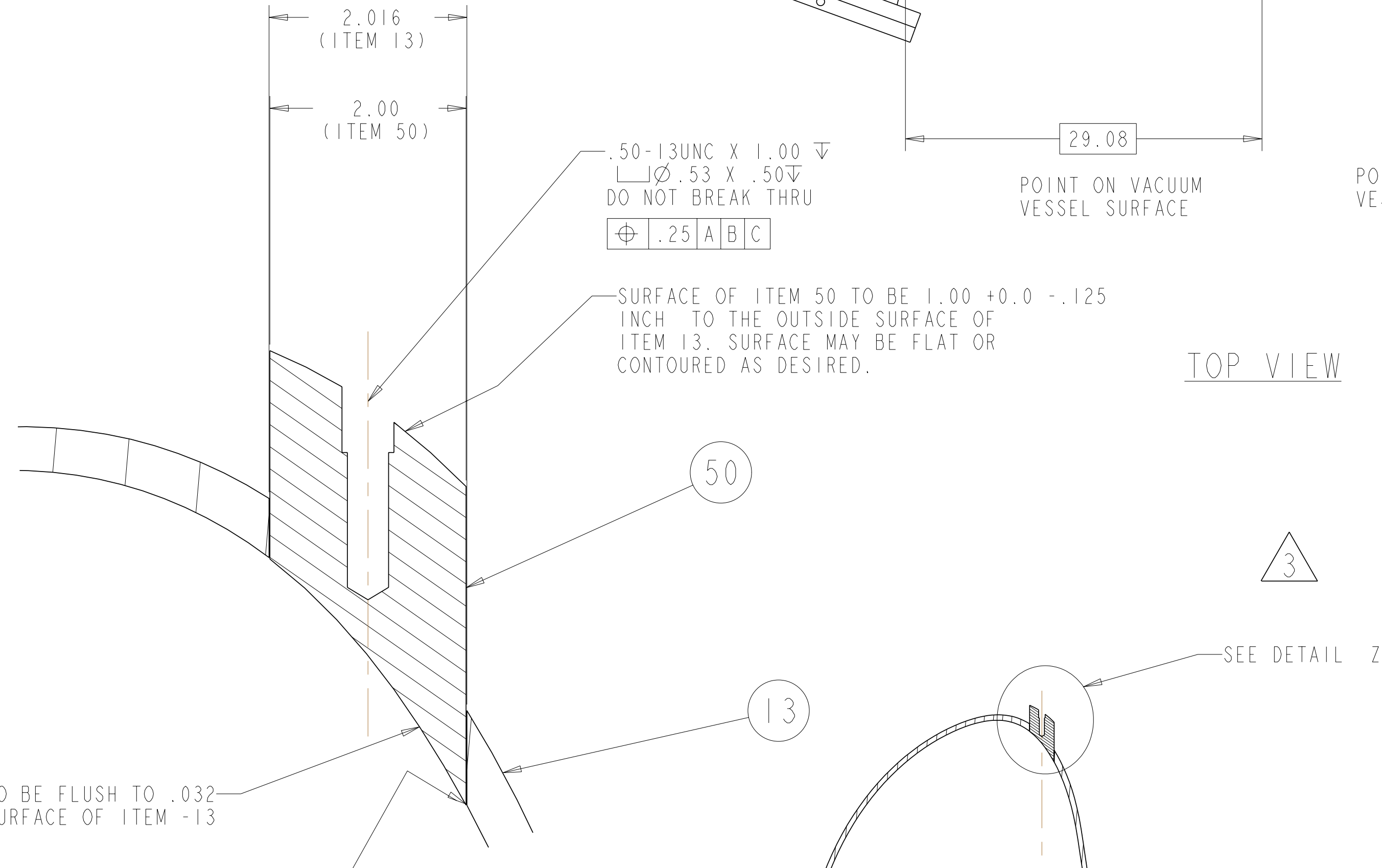
FOR PARTS LIST AND NOTES SEE SHEET 1.



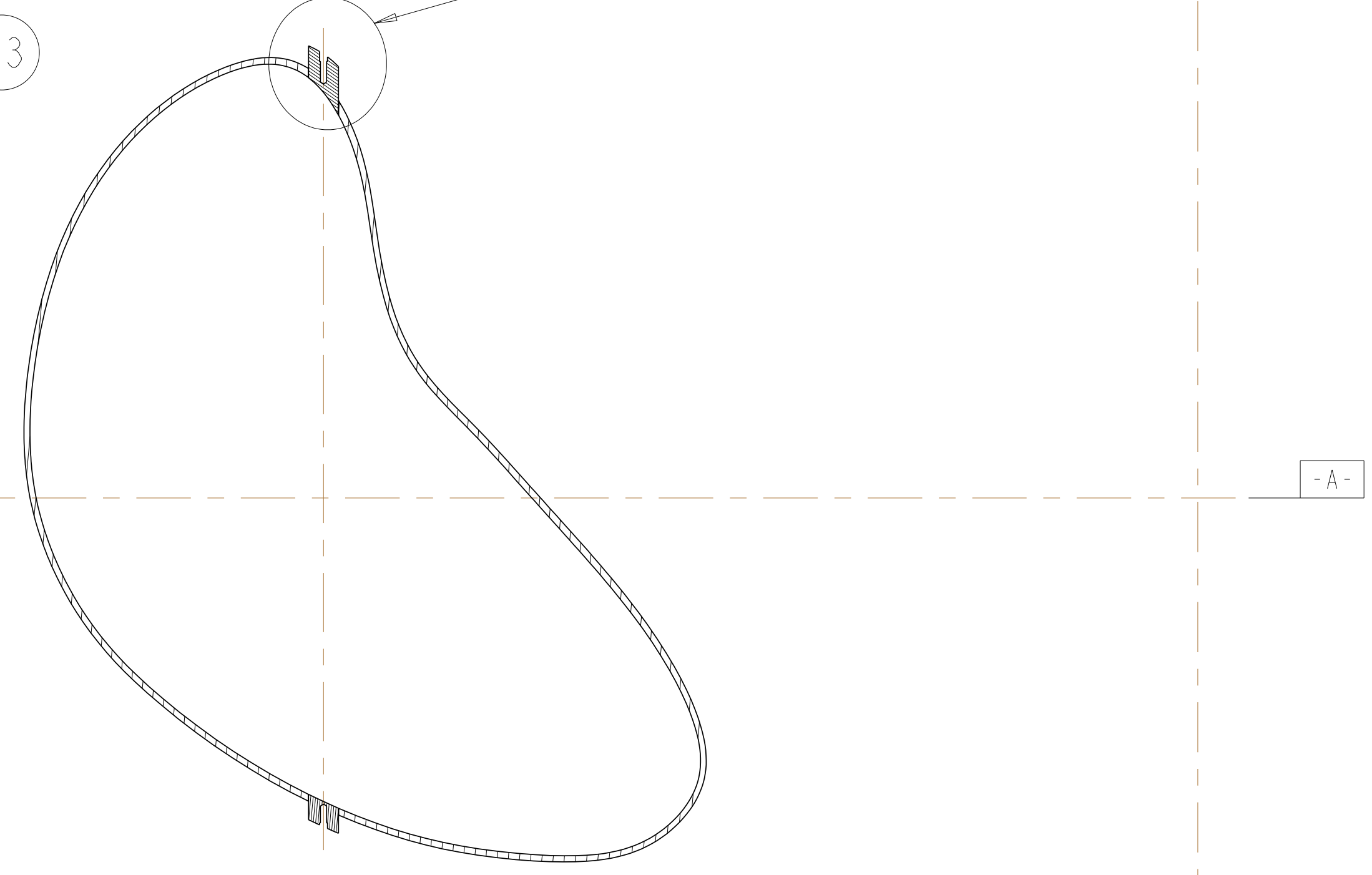
TOP VIEW



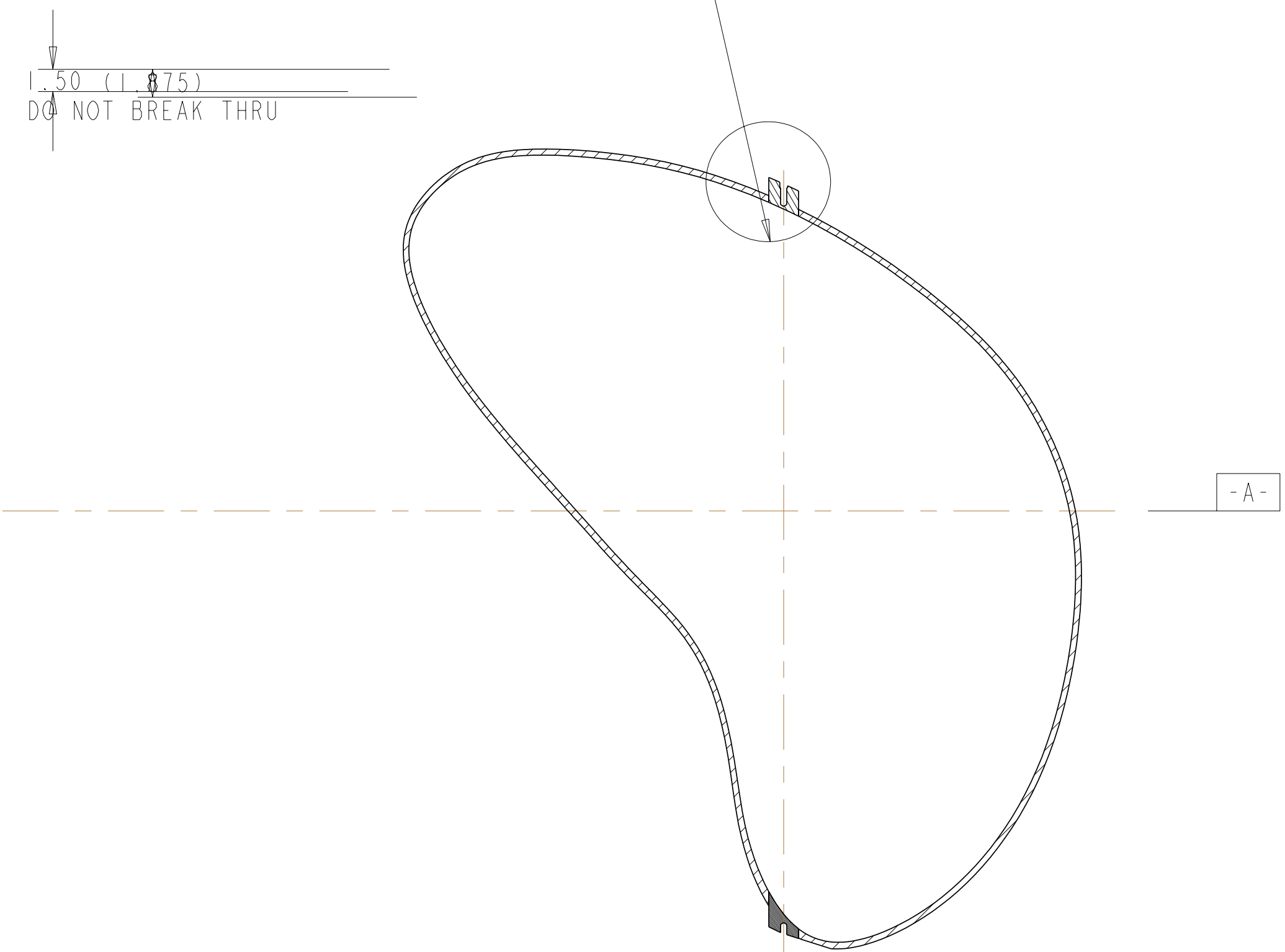
DETAIL X  
TYPICAL 2 PLACES  
SCALE 1.00



DETAIL Z  
SCALE 1.00



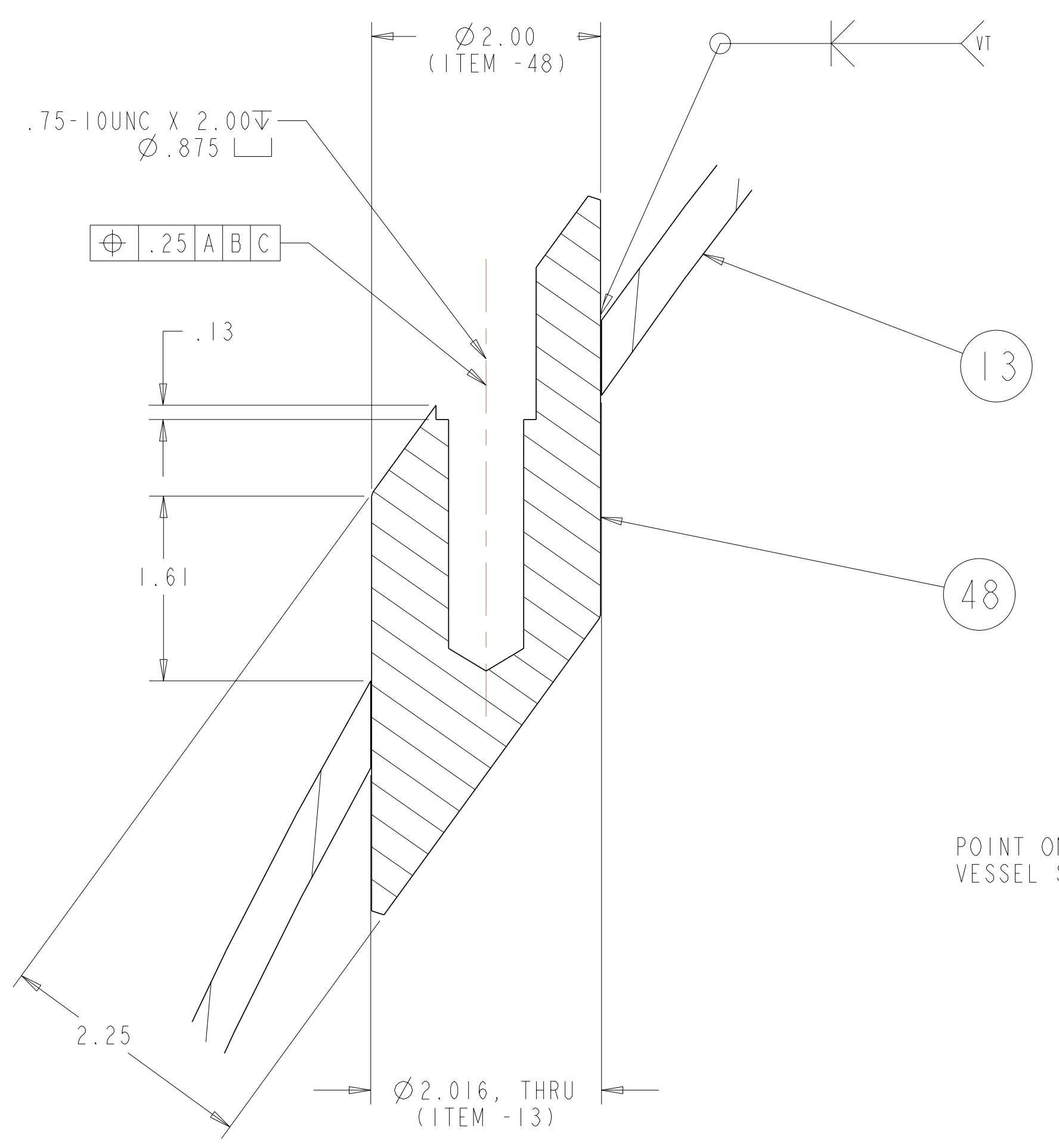
SECTION N-N



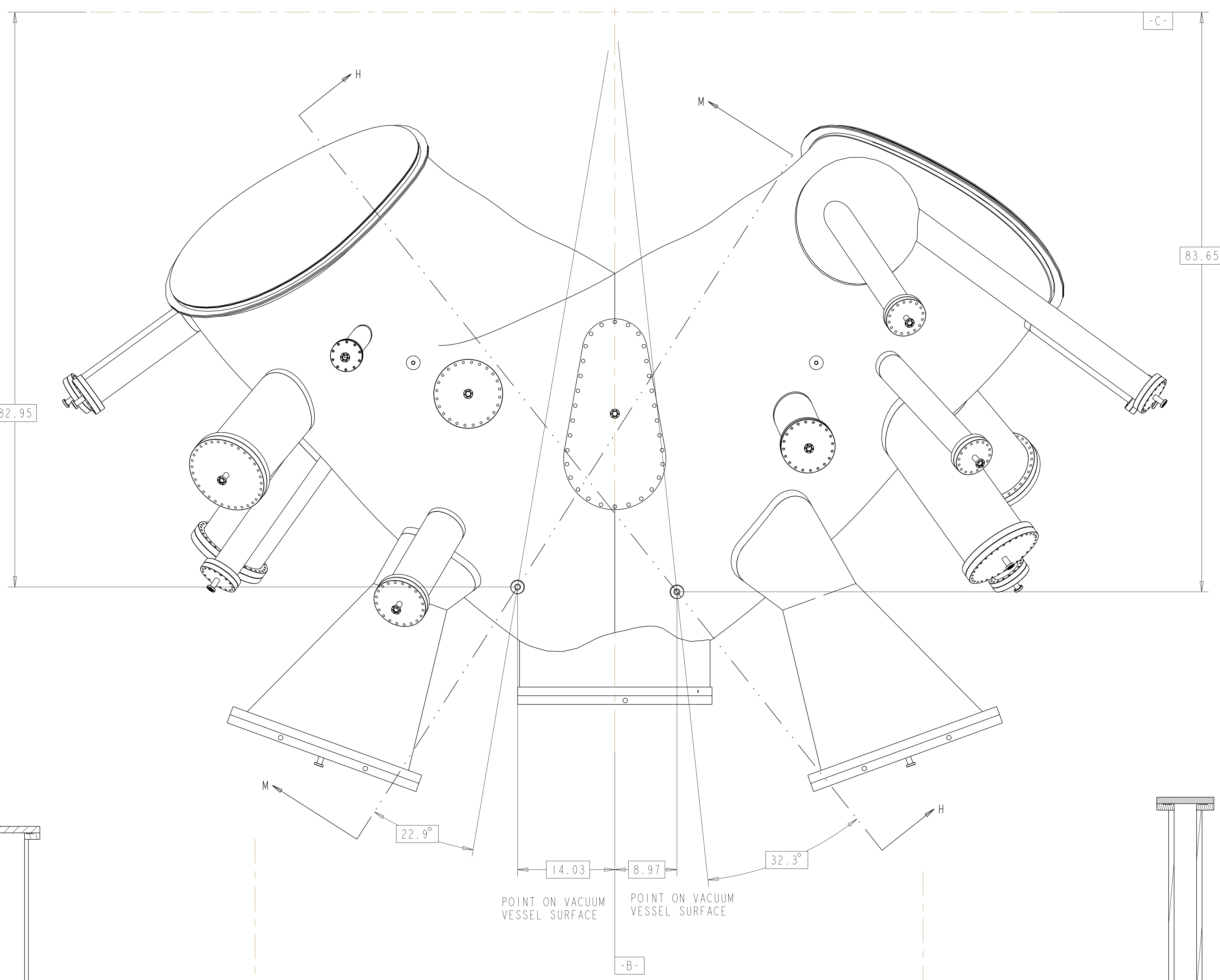
SECTION G-G

Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC, Oak Ridge, Tennessee									
<b>UT-BATTELLE</b>									
<b>NATIONAL COMPACT STELLARATOR EXPERIMENT</b>									
<b>VACUUM VESSEL PERIOD INSPECTION AND LEAK CHECK ASSEMBLY</b>									
VERSION NO. 0+	PLANT X-10	BLDG 5700	FL 3	SHT OF 18	TYPE 19	CLASS A	REV U		
RELEASE LEVEL WIP	SEI20-004							REV 2	

H  
G  
F  
E  
D  
C  
B  
A  
SEI20-004



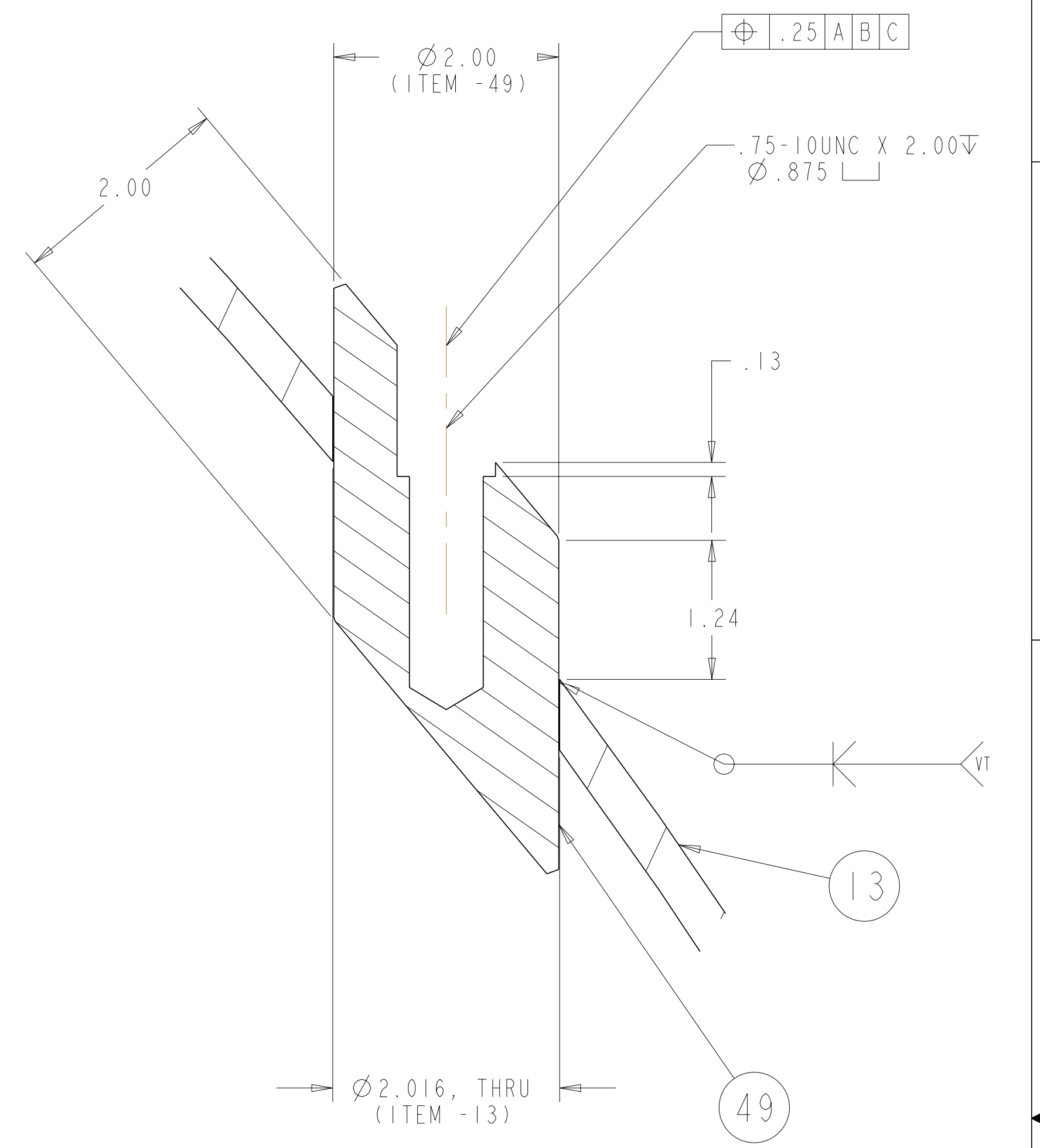
DETAIL W  
 SCALE 1.00



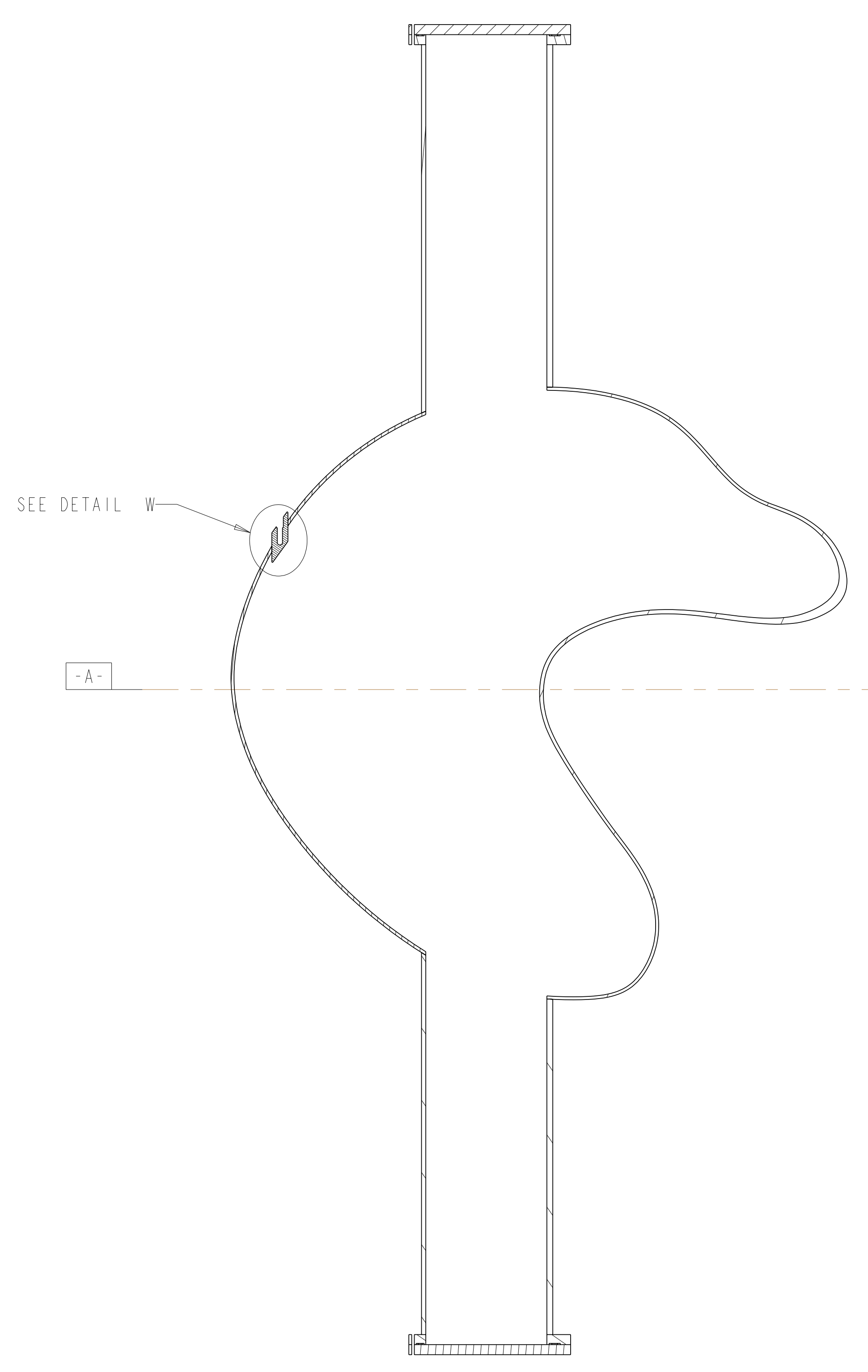
TOP VIEW

FOR PARTS LIST AND NOTES SEE SHEET 1.

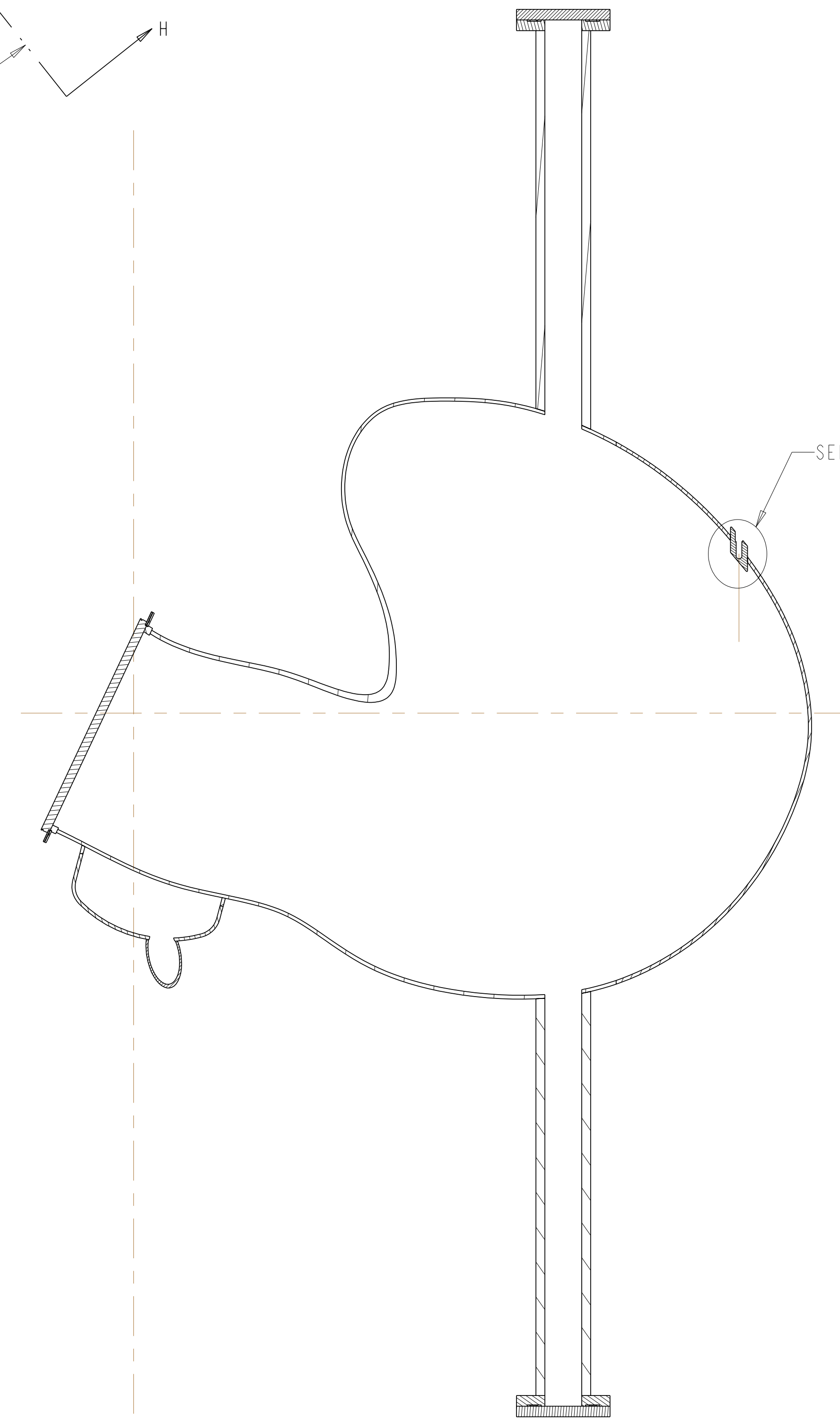
POINT ON VACUUM VESSEL SURFACE



DETAIL Y  
 SCALE 1.00



SECTION M-M  
 SCALE 0.09



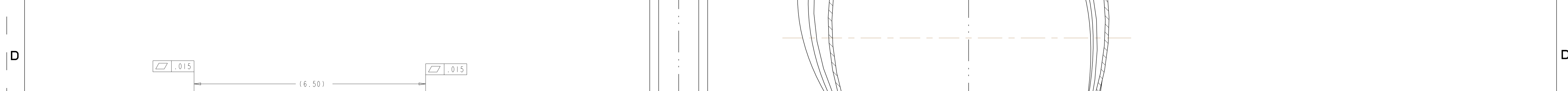
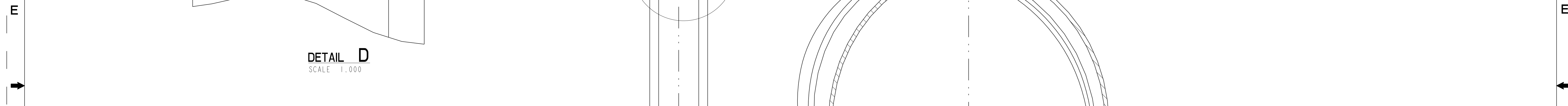
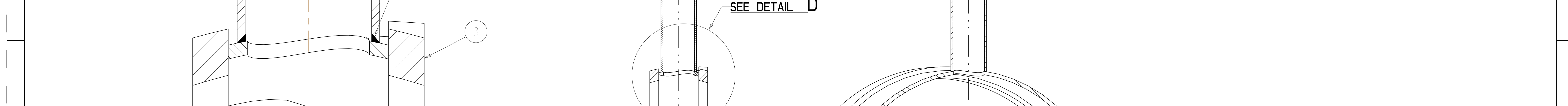
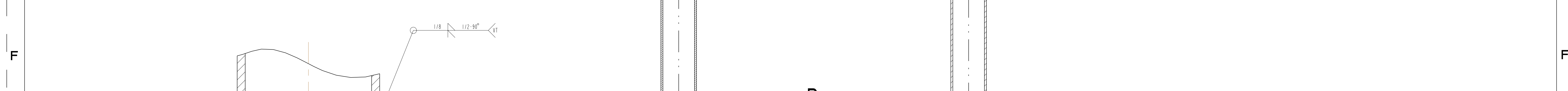
SECTION H-H  
 SCALE 0.09

Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC, Oak Ridge, Tennessee PROJECT NAME						
<b>UT-BATTELLE</b> NATIONAL COMPACT STELLARATOR EXPERIMENT VACUUM VESSEL PERIOD INSPECTION AND LEAK CHECK ASSEMBLY						
VERSION NO.	PLANT	BLDG	FL	SHT OF	TYPE	CLASS
1	X-10	5700	3	19 19	A	U
RELEASE LEVEL	SEI20-004					REV
WIP						2

SEI20-004

**NOTES:**  
1. INTERPRET DIMENSIONS AND TOLERANCES PER ANSI Y14.5M.  
2. DIMENSIONS ARE IN INCHES.  
3. FABRICATION, INSPECTION, AND TESTING SHALL BE PERFORMED IN ACCORDANCE WITH SPECIFICATION NCSX-CSPEC-121-02 AND STATEMENT OF WORK NCSX-SOW-121-03.  
4. PROFILE TOLERANCE IS BILATERAL, i.e., .01875 EITHER SIDE OF REFERENCE SURFACE.  
5. LEAK CHECK ITEM -8 (REDUCING NIPPLE) IS OPTIONAL. BLANK FLANGE MAY BE SUBSTITUTED.

G G

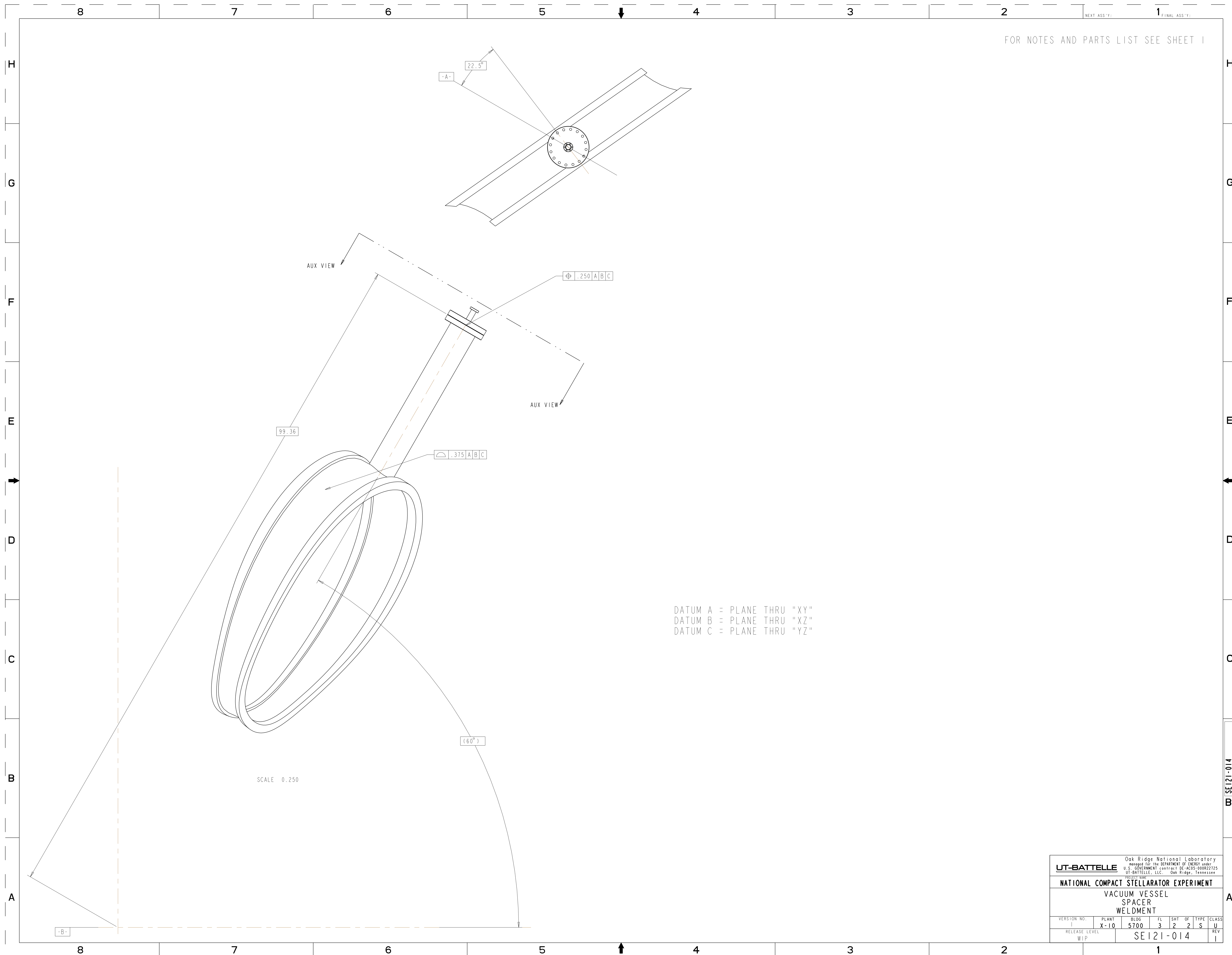


REV	DESCRIPTION	BY	DATE	CHK	DEPT	DATE	PE	REQ	DATE	ORNL	DOE	DATE
1	ADDED NOTE 5											
	REVISOR OR ISSUE PURPOSE											

REV	DESCRIPTION	BY	DATE	CHK	DEPT	DATE	PE	REQ	DATE	ORNL	DOE	DATE

SCALE NOTED: TOLERANCES UNLESS OTHERWISE SPECIFIED: FRACTIONS ± .01; XX DECIMALS ± .01; XXX DECIMALS ± .005; ANGLES ± 0°15'; BREAK SHARP EDGES ± .005 MAX FINISH UNLESS SPECIFIED.

DESIGNER: PL. GORANSON 8/03; DRAWN BY: G. H. JONES 8/03; CHECKED BY: M. J. COLE 8/04. PROJECT: NATIONAL COMPACT STELLARATOR EXPERIMENT. VACUUM VESSEL SPACER WELDMENT. VERSION NO. X-10; BLDG. 5700; FL. 3; SHT. 1; TYPE. 2; CLASS. S; U. RELEASE LEVEL: WIP. DRAWING APPROVALS: DATE.



FOR NOTES AND PARTS LIST SEE SHEET 1

DATUM A = PLANE THRU "XY"  
 DATUM B = PLANE THRU "XZ"  
 DATUM C = PLANE THRU "YZ"

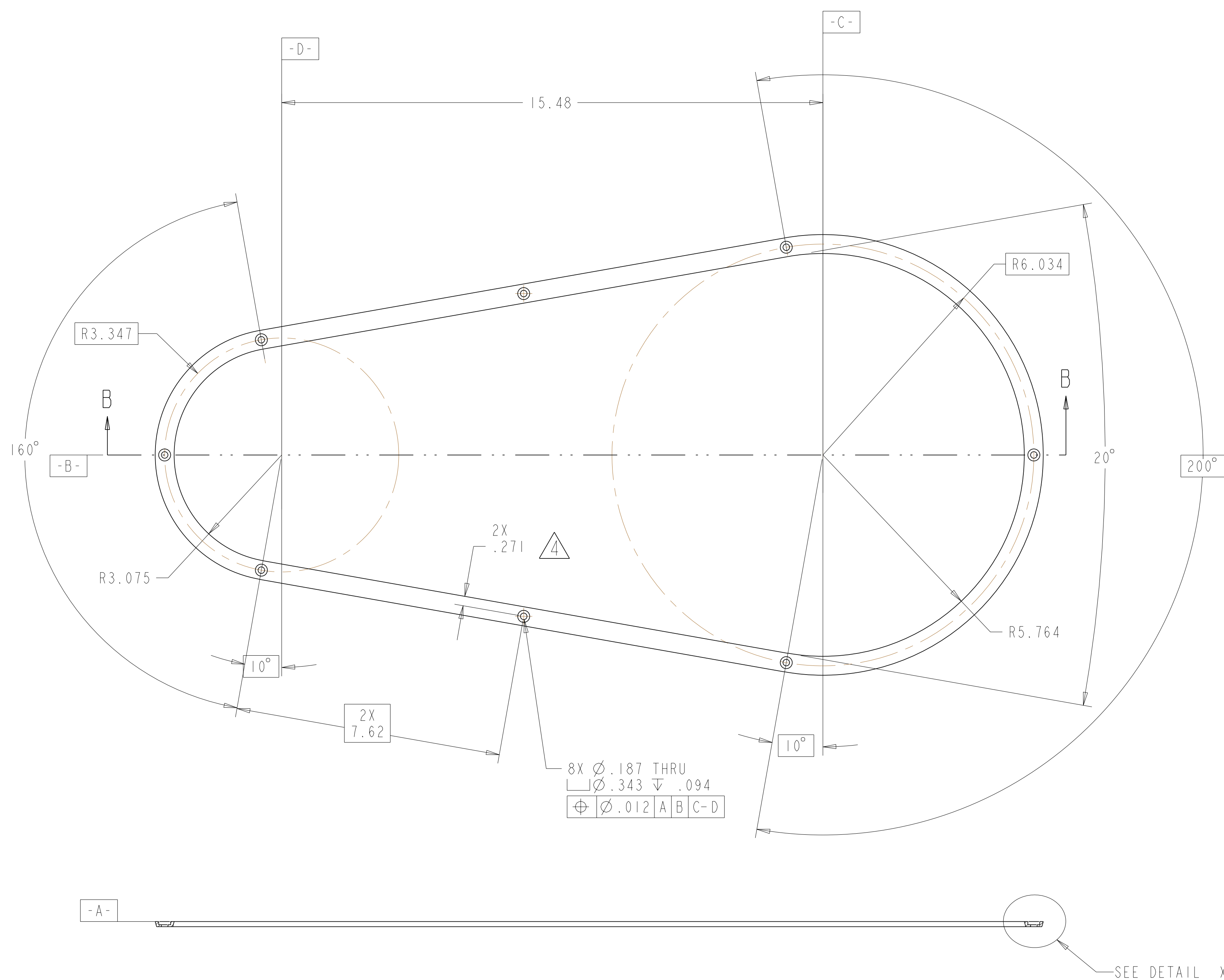
SCALE 0.250

UT-BATTELLE		Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY U.S. GOVERNMENT CONTRACT NO. AC05-84OR21400 UT-BATTELLE, LLC, Oak Ridge, Tennessee	
NATIONAL COMPACT STELLARATOR EXPERIMENT			
VACUUM VESSEL SPACER WELDMENT			
VERSION NO.	PLANT	BLDG	FL SHT OF TYPE CLASS
	X-10	5700	3 2 2 S U
RELEASE LEVEL	SEI 21-014		REV
WIP			I

B/ SEI 21-014

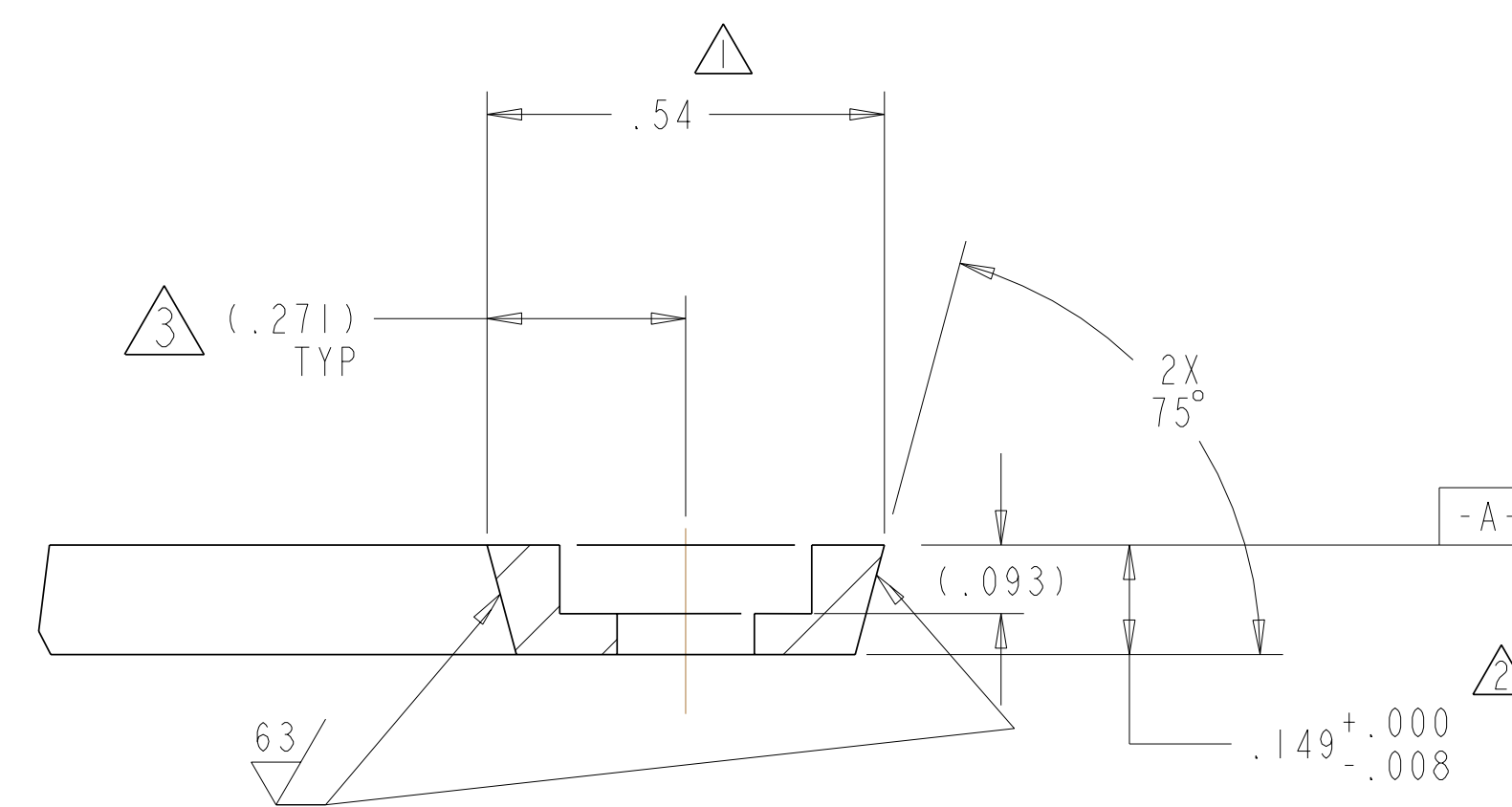
NOTES:

- 1. INTERPRET DIMENSIONS AND TOLERANCES PER ANSI Y14.5M
- 2. DIMENSIONS ARE IN INCHES
- 3. FABRICATION, INSPECTION, AND TESTING SHALL BE PERFORMED IN ACCORDANCE WITH SPECIFICATION NCSX-CSPEC-121-02 AND STATEMENT OF WORK NCSX-SOW-121-03.

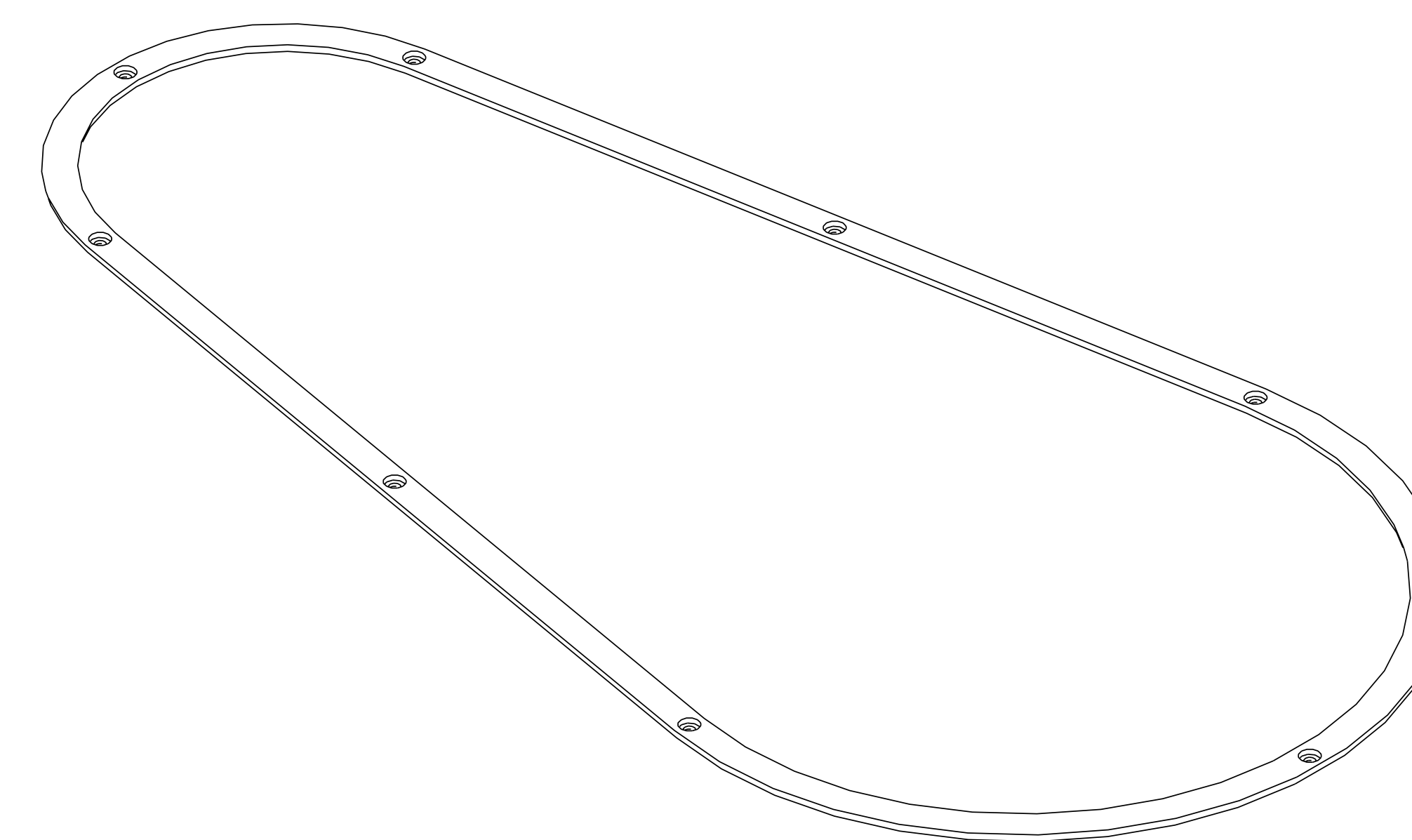


SECTION B-B

SEE DETAIL X



DETAIL X  
SCALE 4.00



ISOMETRIC VIEW

SCALE: 0.50

next assy	AR	-1	PORT 12 SEAL RETAINER DETAIL	SS 316L		
CAGE CODE	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	SPECIFICATION	FIND NO	
SEE 120-004		NEXT ASSEMBLY	PARTS LIST			

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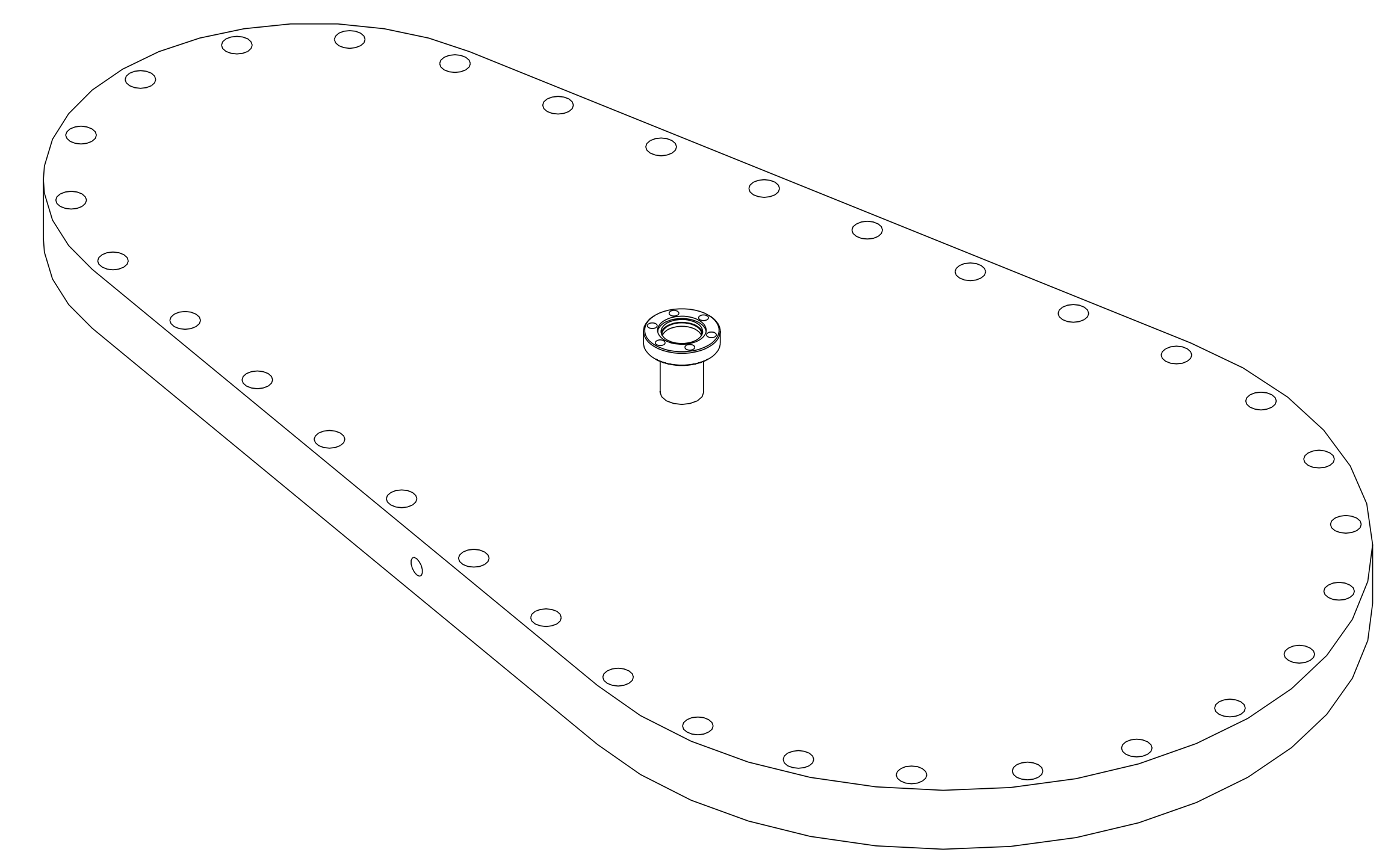
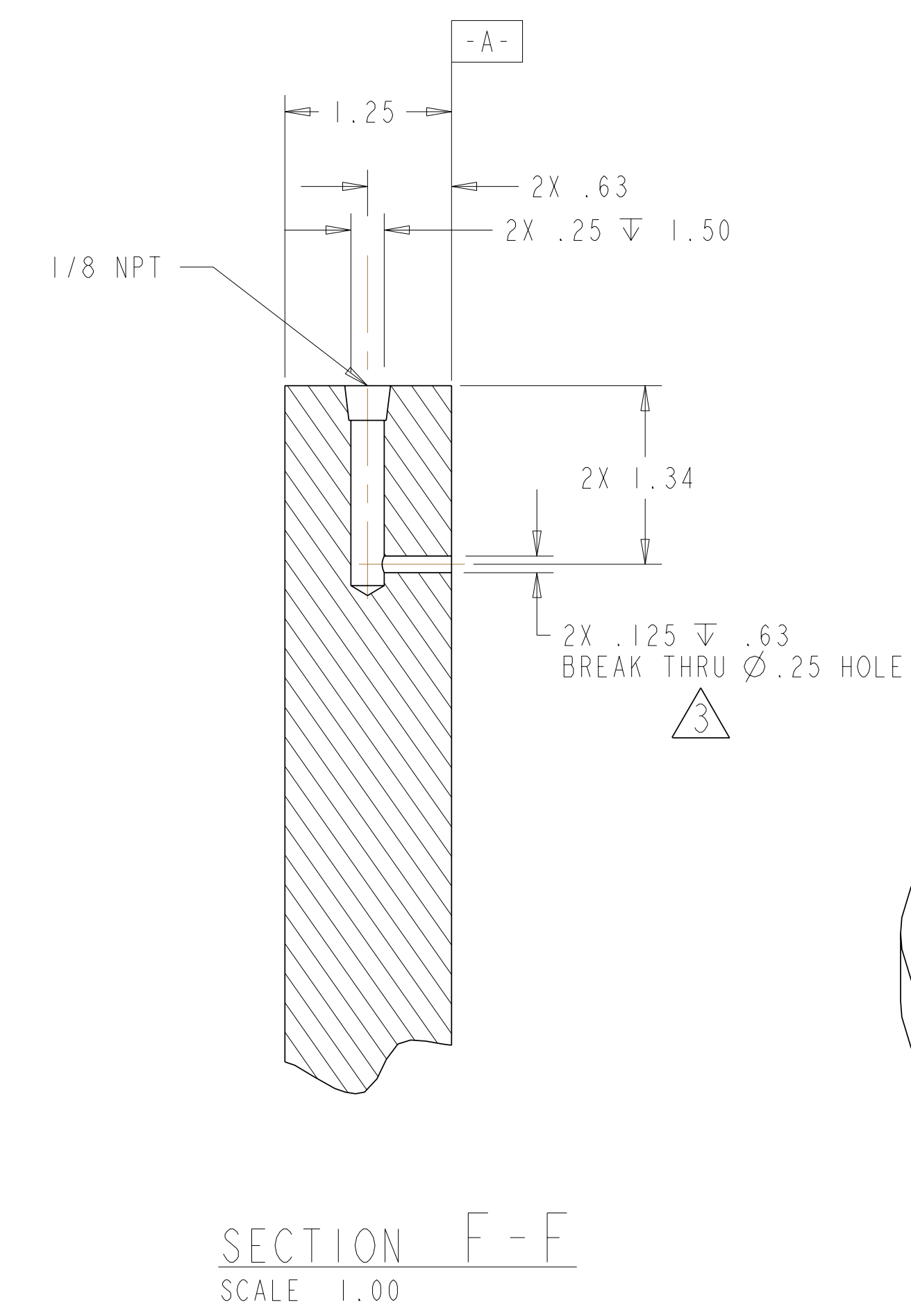
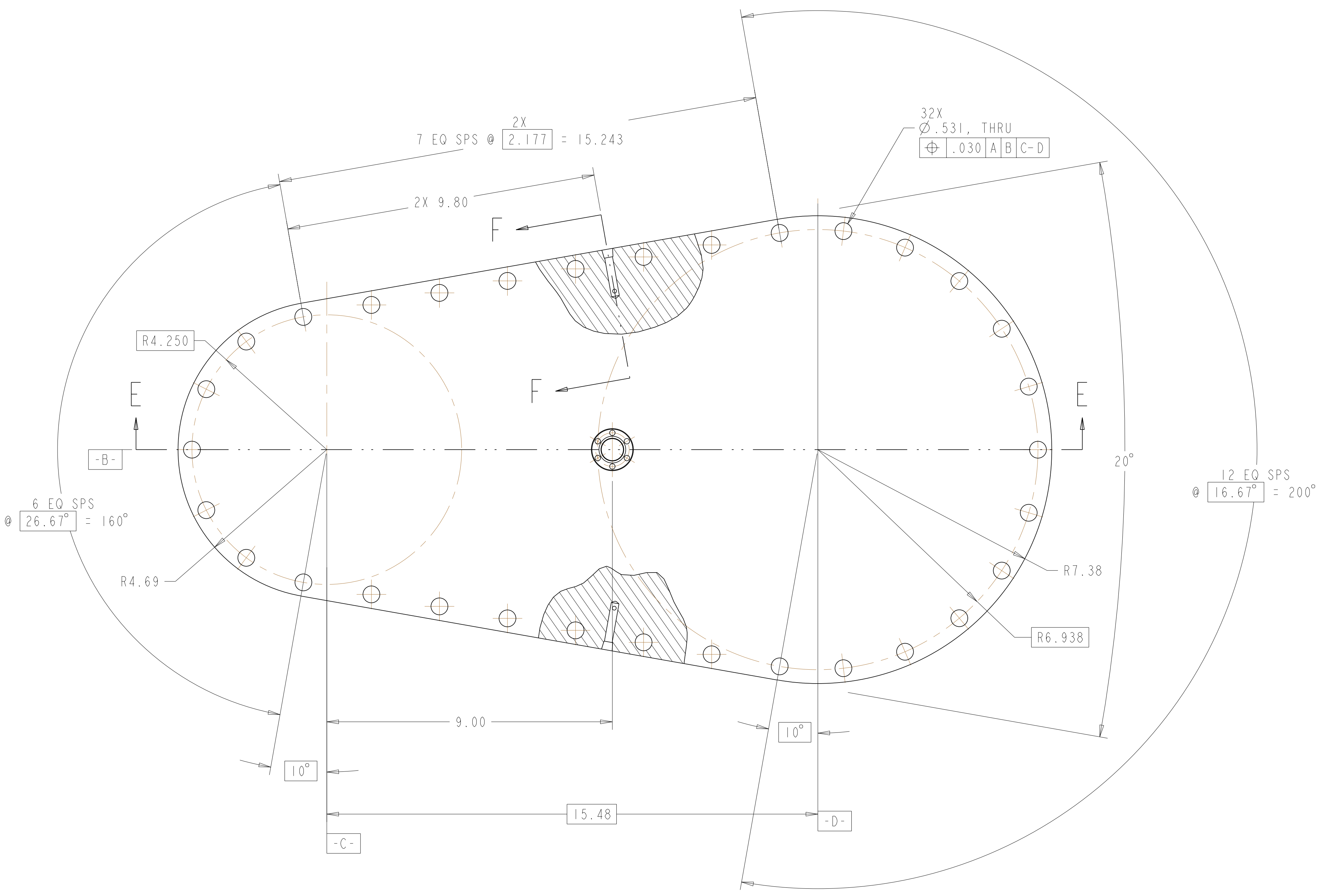
**P** THIS DRAWING PRODUCED ON PRO-ENGINEER

REV	DESCRIPTION	BY	DATE	CHK	DEPT	DATE	PE	REQ	DATE	ORNL	DOE	DATE
2	REVISD PER ECN-4945 CHG DIM TO REF Δ ADDED DIM REVISD PER ECN-4933	GHJ	2/28/05	MJC								
1	Δ TOLERANCE WAS +.000 -.003 DIMENSION WAS .541	MJC	11/02/04	PLG								

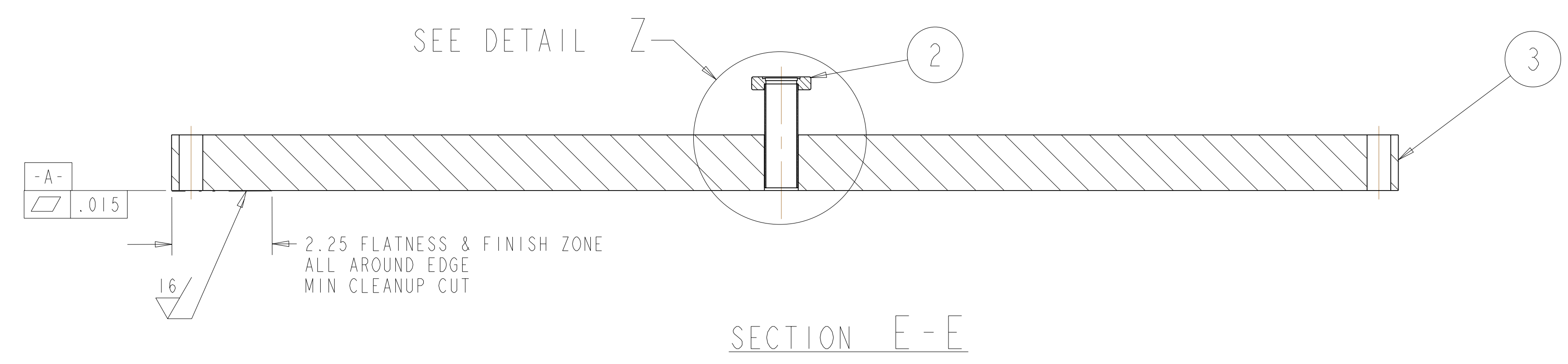
SCALE NOTED		DES	DATE
TOLERANCES UNLESS OTHERWISE SPECIFIED	FRACTIONS	P. GORANSON	5-27-04
XX DECIMALS ± .01	XXX DECIMALS ± .005	DRW G LOVETT	5-27-04
ANGLES ± 0°15'	BREAK SHARP EDGES .06 MAX	CHK MT BROWN	6-01-04
FINISH .125 UNLESS OTHERWISE SPECIFIED		SECT :	
		DEPT :	
		PE :	
		CR :	
		PJ :	
		REQ :	
		PPPL DRFT J. SIEGEL	6/04

UT-BATTELLE		Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC, Oak Ridge, Tennessee	
NATIONAL COMPACT STELLARATOR EXPERIMENT			
VACUUM VESSEL PORT 12 SEAL RETAINER DETAIL			
VERSION NO.	PLANT	BLDG	FL
1	X-10	5700	3
SHT OF	TYPE	CLASS	REV
1	S	U	2
RELEASE LEVEL		SEI22-019	
WIP			

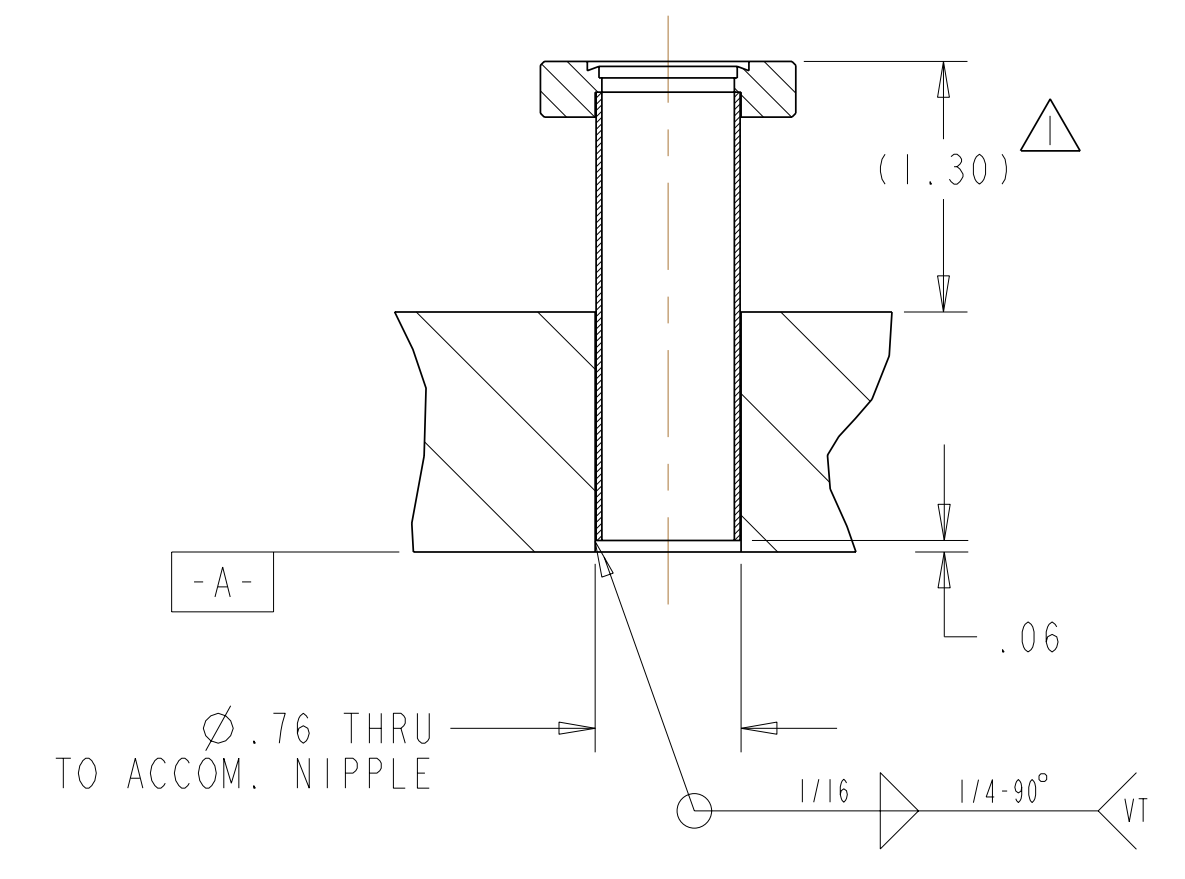
- NOTES:
1. INTERPRET DIMENSIONS AND TOLERANCES PER ANSI Y14.5M.
  2. DIMENSION ARE IN INCHES.
  3. FABRICATION, INSPECTION, AND TESTING SHALL BE PERFORMED IN ACCORDANCE WITH SPECIFICATION NCSX-CSPEC-121-02 AND STATEMENT OF WORK NCSX-SOW-121-03.
  4. LEAK CHECK ITEM -2 (HALF NIPPLE) OPTIONAL.



ISOMETRIC VIEW



SECTION E-E



DETAIL Z  
 SCALE 1.00

AR	CAGE CODE	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	SPECIFICATION	FIND NO
AR	-4		WELD, FILLER METAL			4
I	-3		PORT 12 FLANGE	316L SST		3
I	-2		HALF NIPPLE 1 1/3 DEL-SEAL CF CUSTOM LENGTH 2.50"	MDC VACUUM PRODUCTS CORP. 23842 CABBOT BOULEVARD HAYWARD, CA. 94545-1651		2
AR	-1		PORT 12 COVER TEST FLANGE WELDMENT			1
SE120-004	-1					

← NEXT ASSEMBLY

PARTS LIST

WELDING ENGINEER  
 APPROVED R. PARSELLS DATE: 6/04

SCALE: .50

REV	DESCRIPTION	BY	DATE	CHK	DEPT	DATE	PE	REQ	DATE	ORNL	DOE	DATE
2	REVISD PER ECN-4945	GHJ	2/28/05	MJC								
2	ADDED NOTE 4 MODIFIED DEPTH											
1	ADDED REF DIMENSION	MJC	11/02/04	PLG								

SCALE	NOTED	DES	DATE
	TOLERANCES UNLESS OTHERWISE SPECIFIED	P. L. GORANSON	8/03
	FRACTIONS	DRW G. H. JONES	8/03
	XX DECIMALS ± .01	CHK M. J. COLE	6/04
	XXX DECIMALS ± .005	SECT :	
	ANGLES ± 0°15'	DEPT :	
	BREAK SHARP EDGES .06 MAX	PE :	
	FINISH .125 UNLESS OTHERWISE SPECIFIED	PJ :	
		RED :	
		PPPL DRFT J. SIEGEL	6/04

VERSION NO.	PLANT	BLDG	FL	SHT OF	TYPE	CLASS
1	X-10	5700	03	1	S	U

RELEASE LEVEL: WIP

PROJECT NAME: NATIONAL COMPACT STELLARATOR EXPERIMENT  
 VACUUM VESSEL  
 PORT 12 COVER TEST FLANGES  
 WELDMENT

SE122-104

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**P** THIS DRAWING PRODUCED ON PRO-ENGINEER

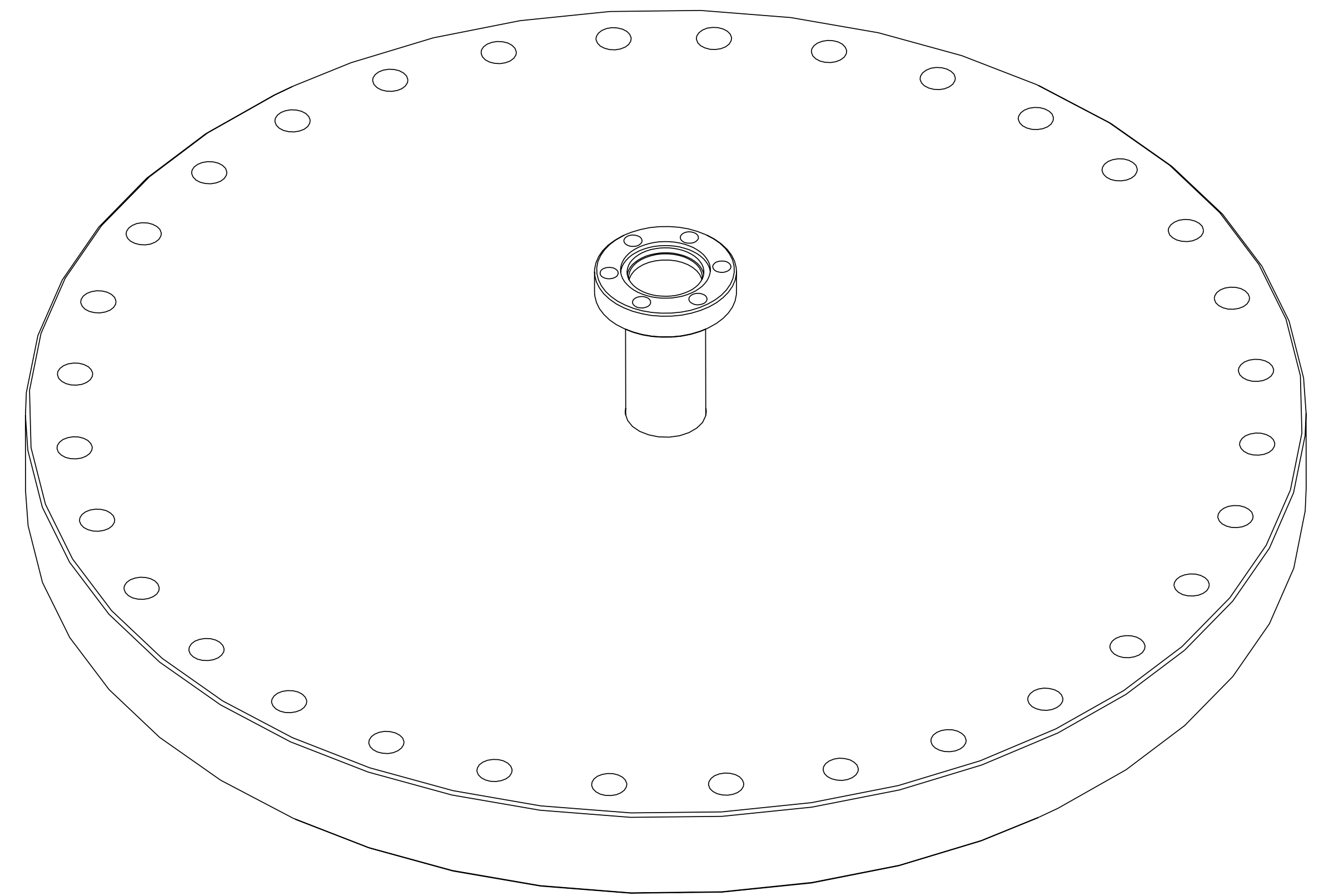
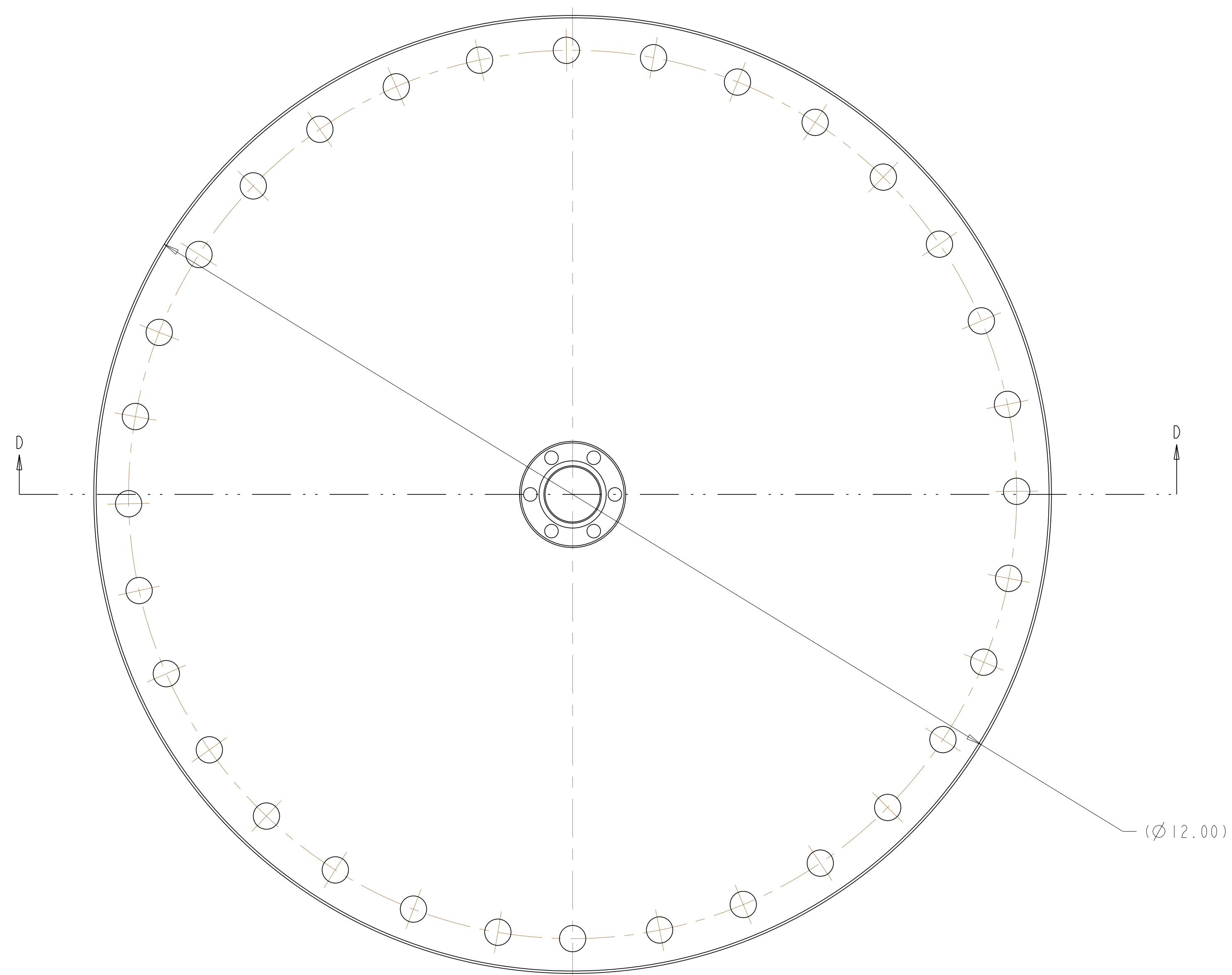
H  
G  
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SE122-104

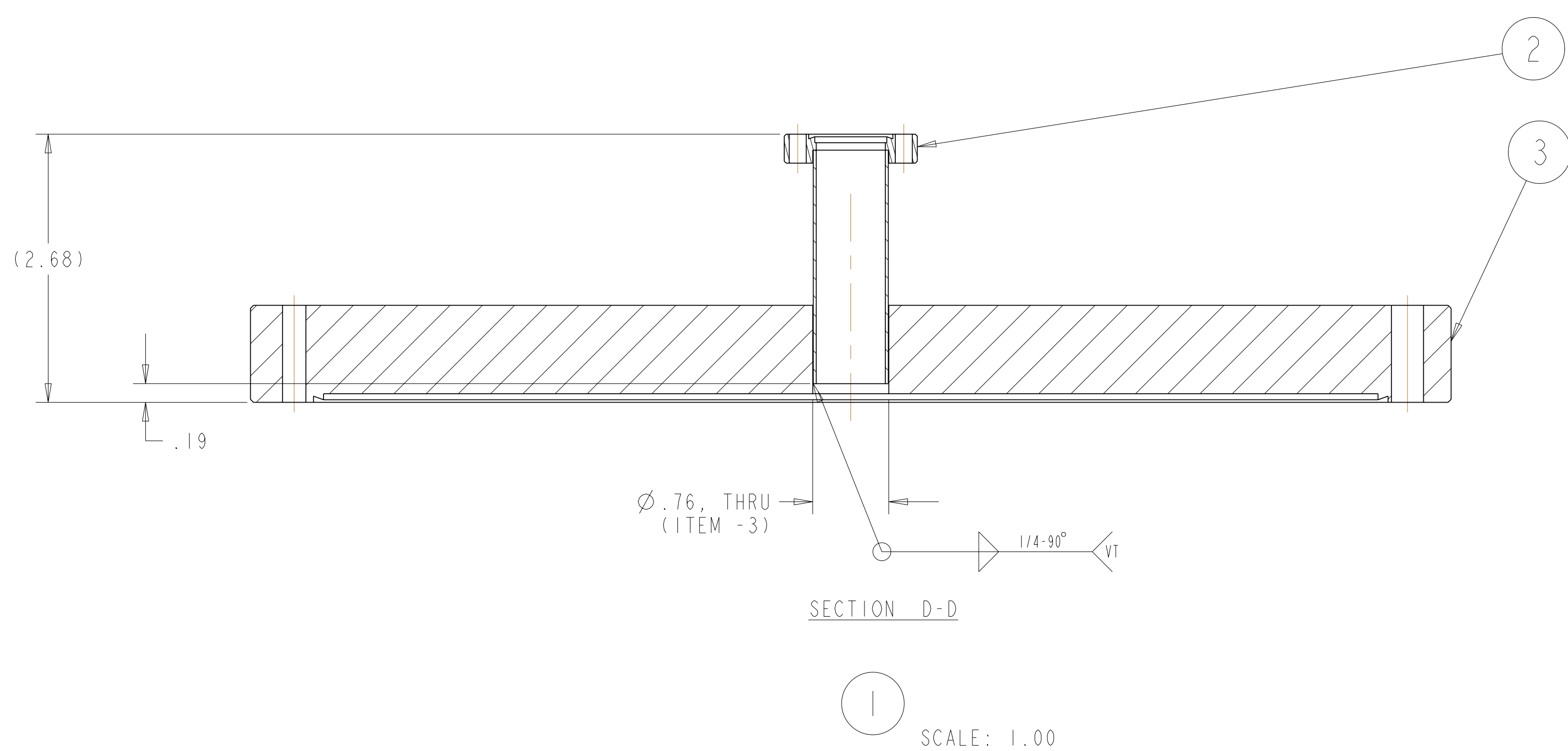
REV 2

NOTES:

- 1. INTERPRET DIMENSIONS AND TOLERANCES PER ANSI Y14.5M.
- 2. DIMENSION ARE IN INCHES.
- 3. FABRICATION, INSPECTION, AND TESTING SHALL BE PERFORMED IN ACCORDANCE WITH SPECIFICATION NCSX-CSPEC-121-02 AND STATEMENT OF WORK NCSX-SOW-121-03.
- 4. LEAK CHECK ITEM -2 (HALF NIPPLE) IS OPTIONAL.



ISOMETRIC VIEW



SECTION D-D

SCALE: 1.00

WELDING ENGINEER  
 APPROVED R. PARSELLS DATE: 6/04

CAGE CODE	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	SPECIFICATION	FIND NO
AR	-4	WELD, FILLER METAL			4
I	110058	Ø12 NON-ROTATABLE BLANK DEL-SEAL CF FLANGE	MDC VACUUM PRODUCTS CORP. 23842 CABBOT BOULEVARD HAYWARD, CA. 94545-1651 OR EQUIVALENT		3
I	401021	HALF NIPPLE 1 1/3 DEL-SEAL CF CUSTOM LENGTH 2.50"			2
AR	X	-1	T2 IN COVER TEST FLANGE WELDMENT		1
SEI20-004	-	NEXT ASSEMBLY	PARTS LIST		

REV	DESCRIPTION	BY	DATE	CHK	DEPT	DATE	PE	REQ	DATE	ORNL	DOE	DATE
I	REVISED PER ECN-4945	GHJ	2/28/05	MJC								
I	ADDED NOTE 4											
	REVISION OR ISSUE PURPOSE											

SCALE NOTED	DES: PL GORANSON 8/03	UT-BATTELLE	Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC. Oak Ridge, Tennessee
TOLERANCES UNLESS OTHERWISE SPECIFIED	DRW: G.H. JONES 8/03	NATIONAL COMPACT STELLARATOR EXPERIMENT	
FRACTIONS ± .01	CHK: D SPARKS 6/04	VACUUM VESSEL	
XX DECIMALS ± .01	SECT: :	12 IN COVER TEST FLANGE	
XXX DECIMALS ± .005	DEPT: :	DETAIL	
ANGLES ± 0'15"	PE: :	VERSION NO. :	
BREAK SHARP EDGES .06 MAX	CR: :	PLANT X-10	BLDG 5700
FINISH .125 UNLESS OTHERWISE SPECIFIED	PJ: :	FL 03	FLSHT 1
	RD: :	TYPE I	CLASS S
	PPPL DRFT J. SIEGEL 6/04	RELEASE LEVEL WIP	REV I
		DRAWING APPROVALS DATE	
		SEI22-112	

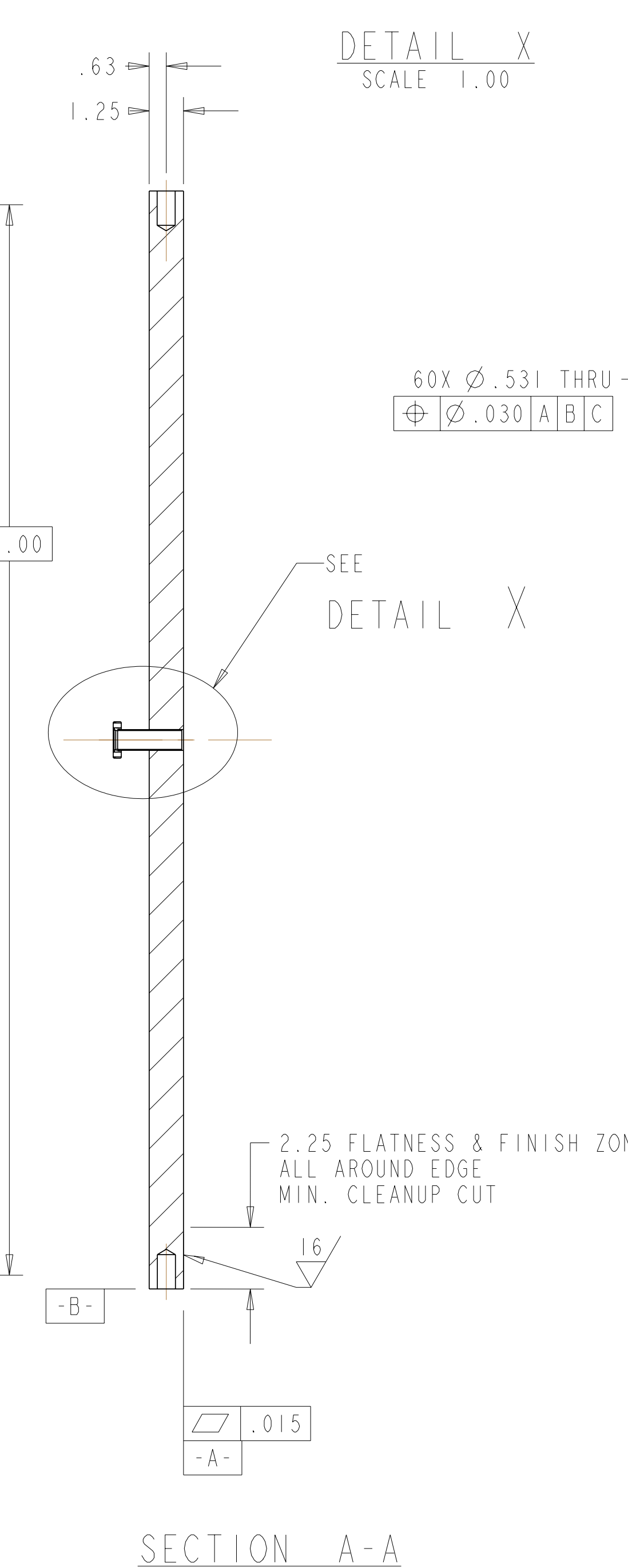
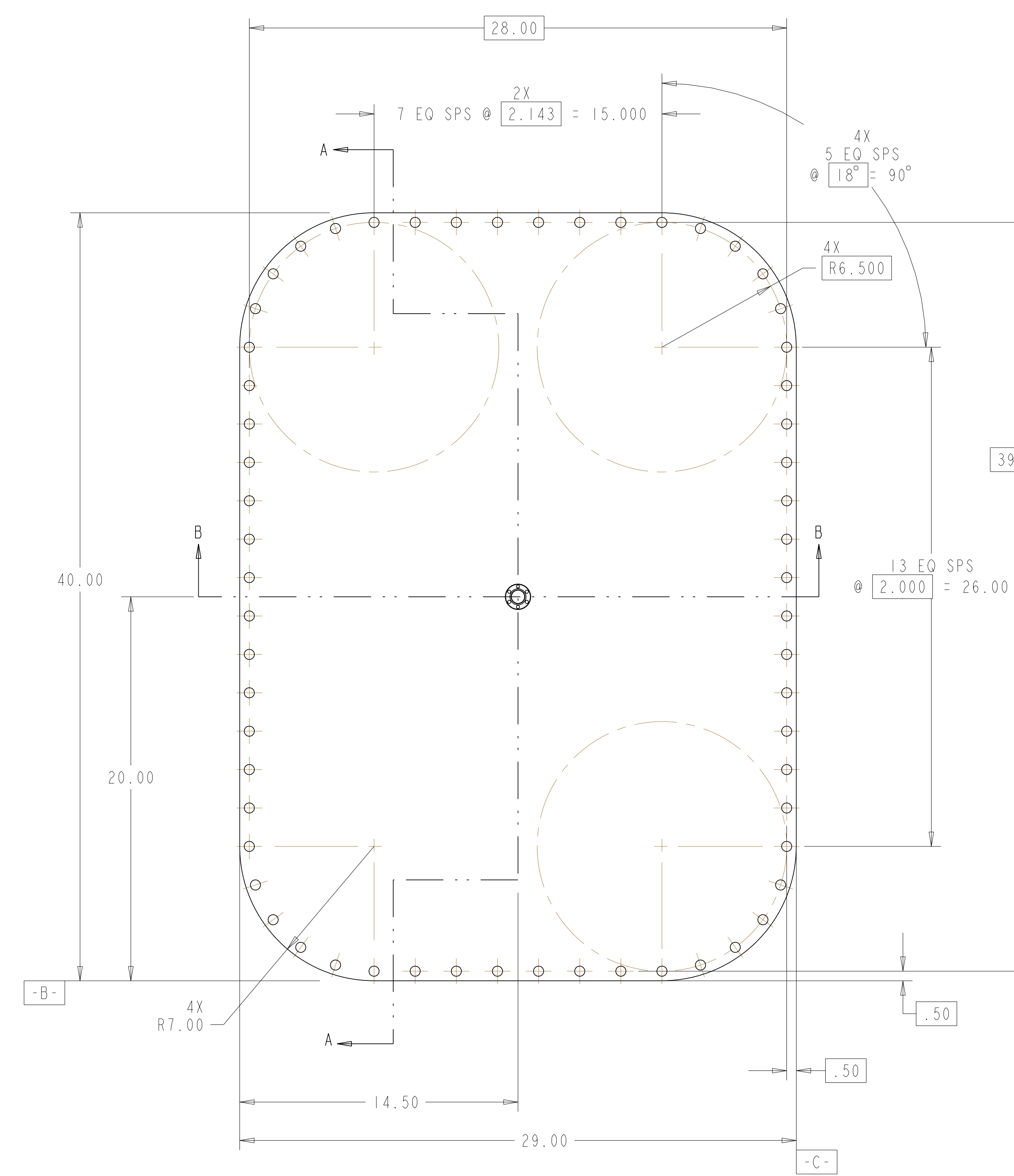
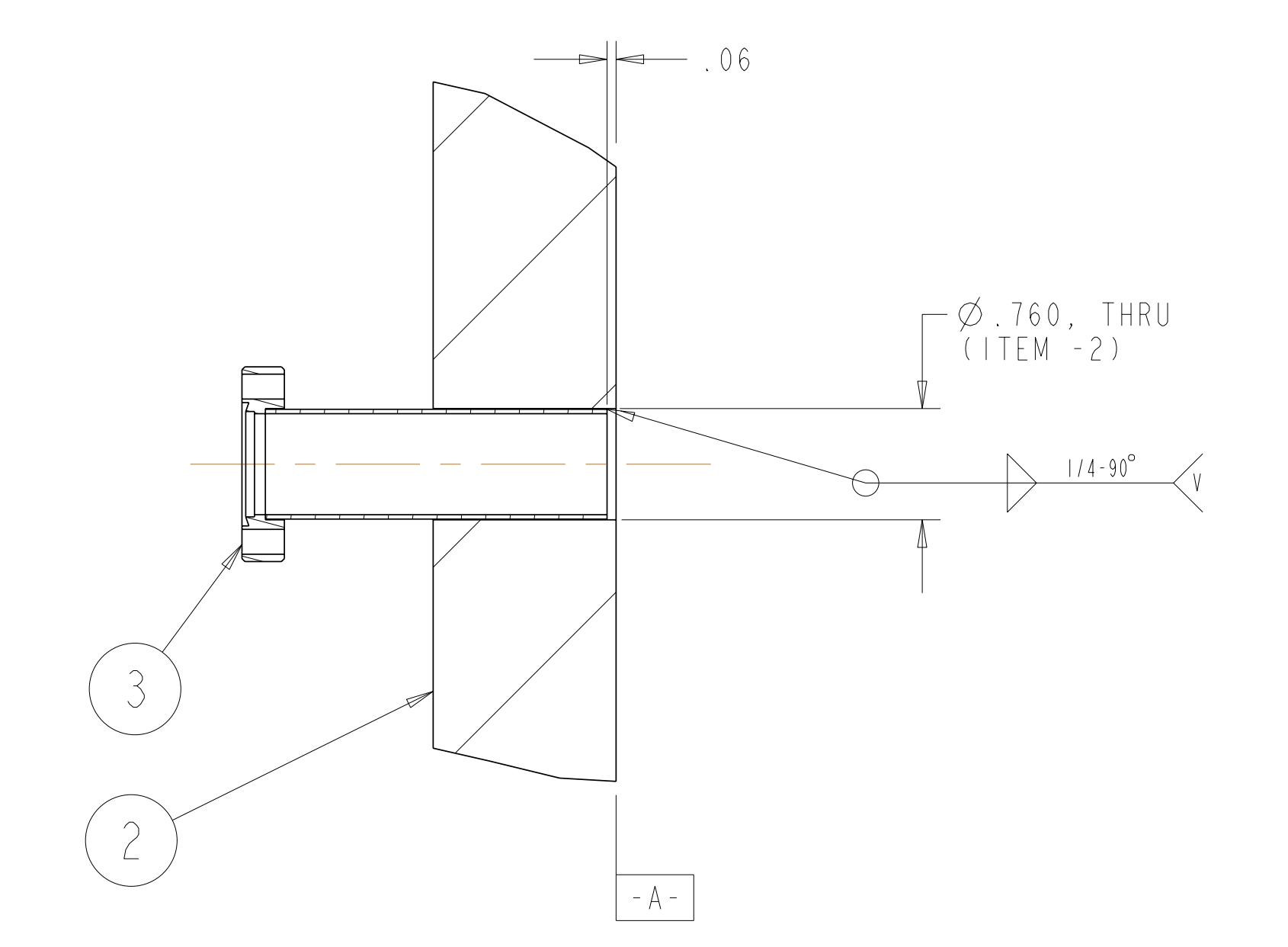
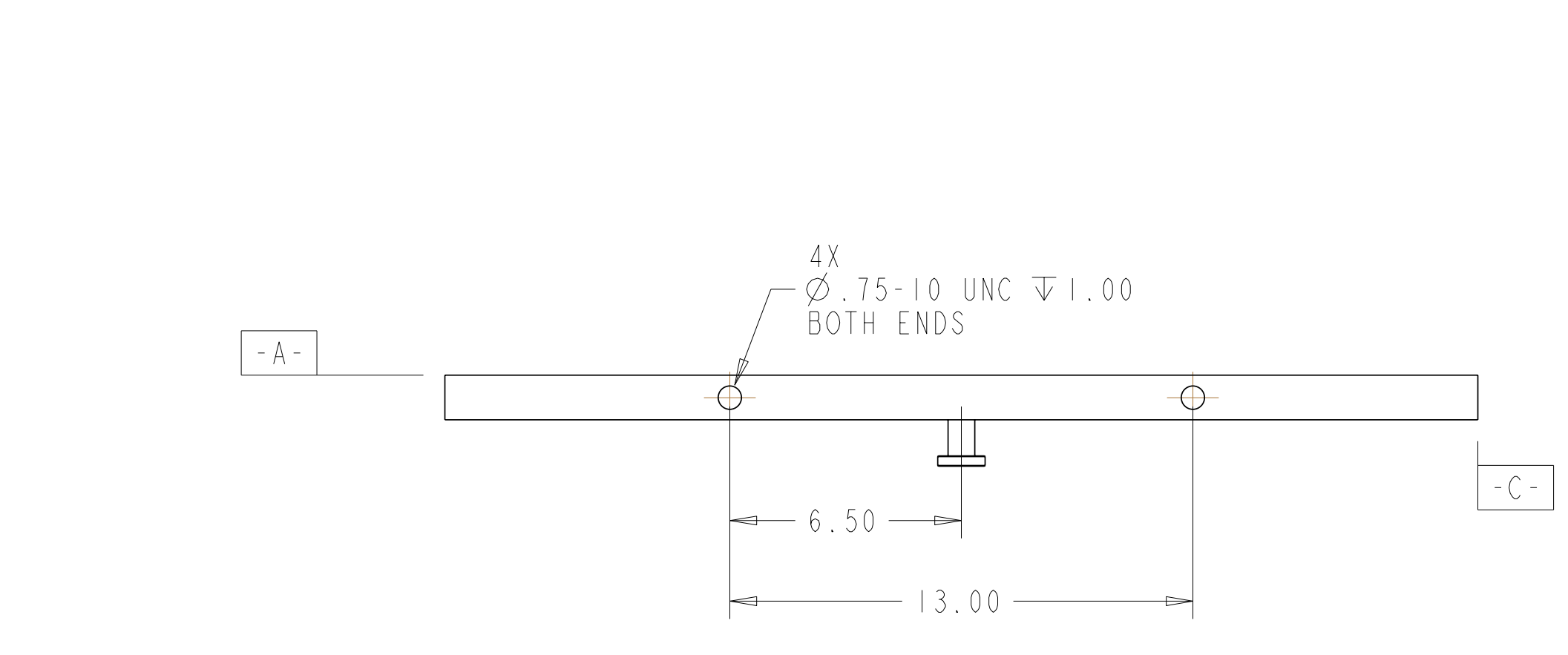
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**P** THIS DRAWING PRODUCED ON PRO-ENGINEER

SEI22-112

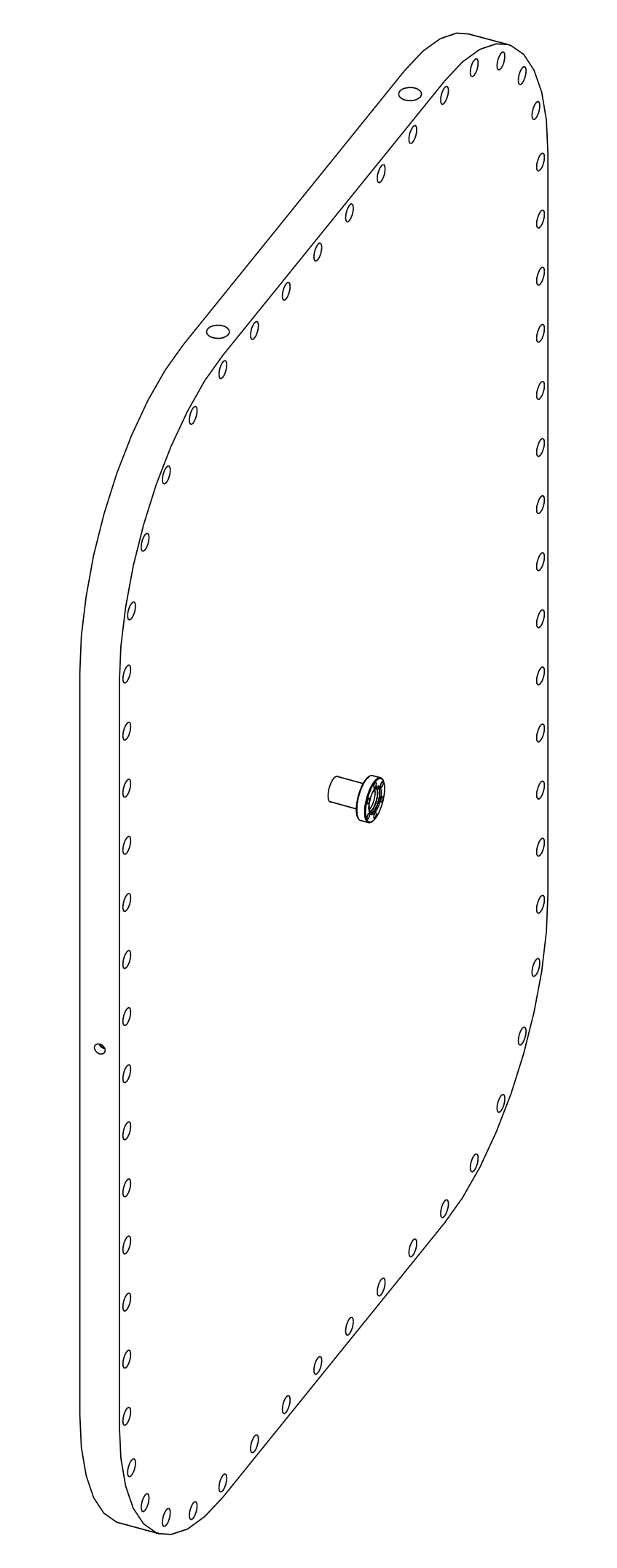
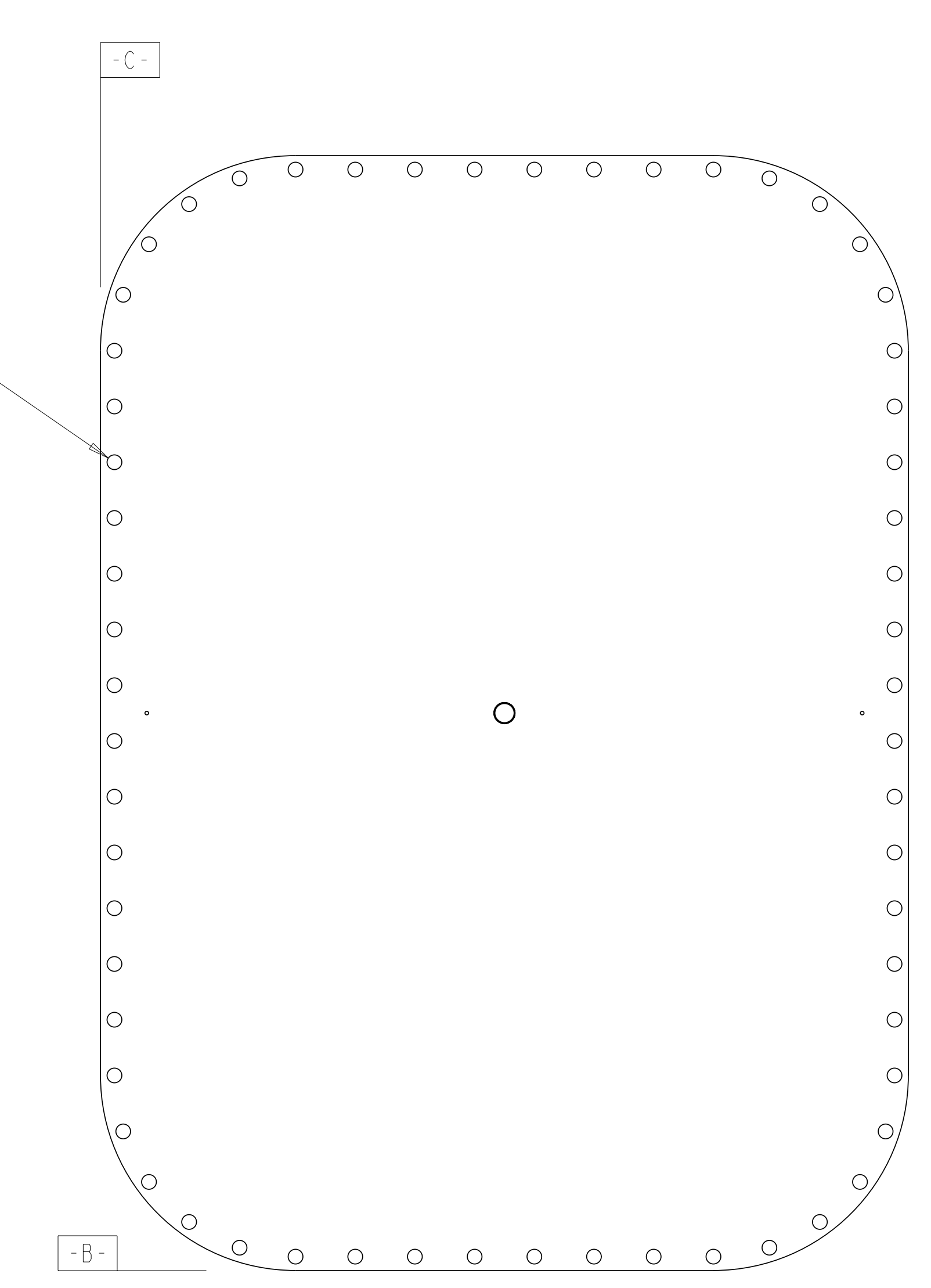


- NOTES:
1. INTERPRET DIMENSIONS AND TOLERANCES PER ANSI Y14.5M.
  2. DIMENSION ARE IN INCHES.
  3. FABRICATION, INSPECTION, AND TESTING SHALL BE PERFORMED IN ACCORDANCE WITH SPECIFICATION NCSX-CSPEC-121-02 AND STATEMENT OF WORK NCSX-SOW-121-03.
  4. LEAK CHECK OF ITEM -3 (HALF NIPPLE) OPTIONAL.

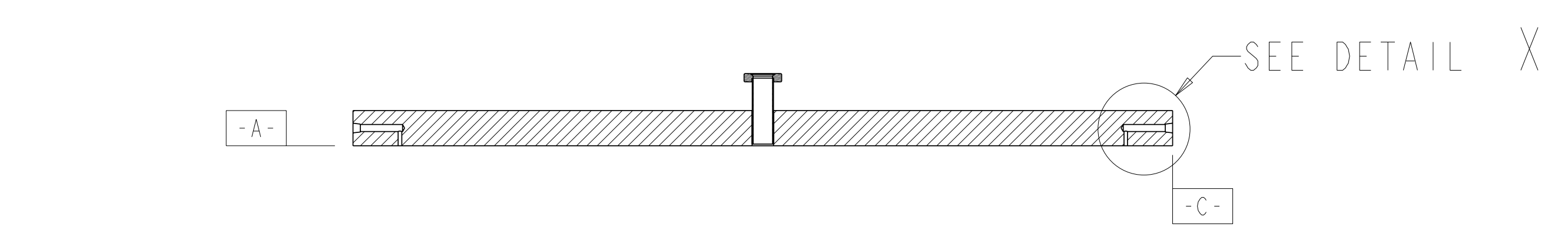


DETAIL X  
SCALE 1.00

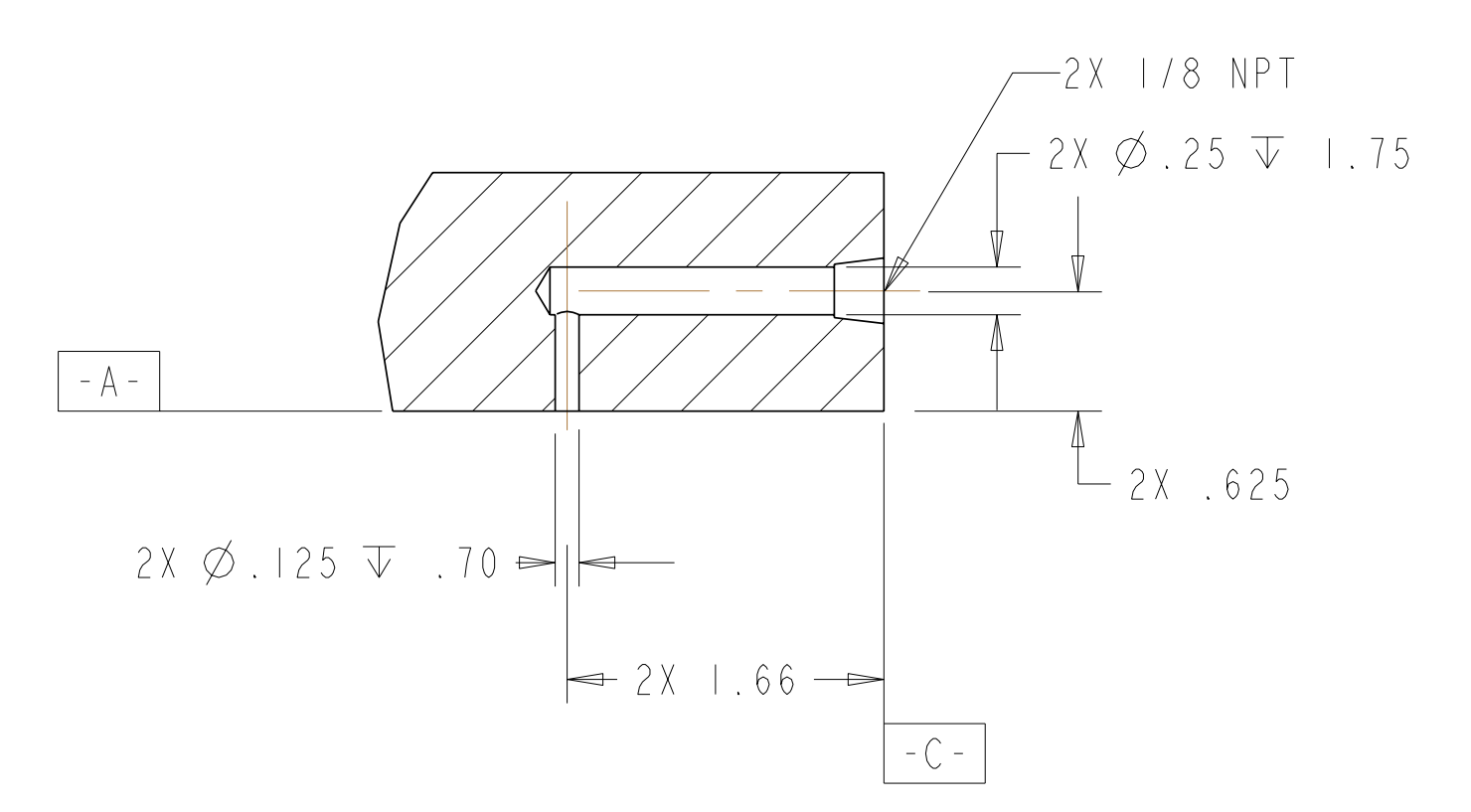
60X Ø.531 THRU  
 ±.030 A B C



ISOMETRIC VIEW



SECTION B-B



SCALE: .25

DETAIL X  
SCALE 1.00

WELDING ENGINEER  
 APPROVED R. PARSELLS DATE: 6/09

AR	CAGE CODE	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	SPECIFICATION	FIND NO
		-4	WELD FILLER METAL			4
		-3	HALF NIPPLE 1 1/3 DEL-SEAL CF CUSTOM LENGTH = 2.50"	NDC VACUUM PRODUCTS CORP. 23842 CABOT BOULEVARD, HAYWARD CA. 94545-1615		3
		-2	PORT 4 COVER TEST FLANGE	316L SST		2
		-1	PORT 4 COVER TEST FLANGE WELDMENT			1
SE120-004			NEXT ASSEMBLY			

PARTS LIST

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**P** THIS DRAWING PRODUCED ON PRO-ENGINEER

REV	DESCRIPTION	BY	DATE	CHK	DEPT	DATE	PE	REQ	DATE	ORNL	DOE	DATE
1	ADDED NOTE 4											
2	REVISED PER ECN-4945	GHJ	2/28/05	MJC								

SCALE	NOTED	DES	PL	GORANSON	8/03
	TOLERANCES UNLESS OTHERWISE SPECIFIED	DRW	G.H. JONES	8/03	
	FRACTIONS	CHK	D SPARKS	6/04	
	XX DECIMALS ±.01	SECT			
	XXX DECIMALS ±.005	DEPT			
	ANGLES ±0°15'	PE			
	BREAK SHARP EDGES .06 MAX	CR			
	FINISH .125 UNLESS OTHERWISE SPECIFIED	PJ			
		RED			
		PPPL	DRFT J. SIEGEL	6/04	

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**NATIONAL COMPACT STELLARATOR EXPERIMENT**

**VACUUM VESSEL  
 PORT 4 COVER TEST FLANGE  
 WELDMENT**

VERSION NO.	PLANT	BLDG	FL	SHT	OF	TYPE	CLASS
	X-10	5700	03	1	1	A	U
RELEASE LEVEL	SE122-149						
WIP							