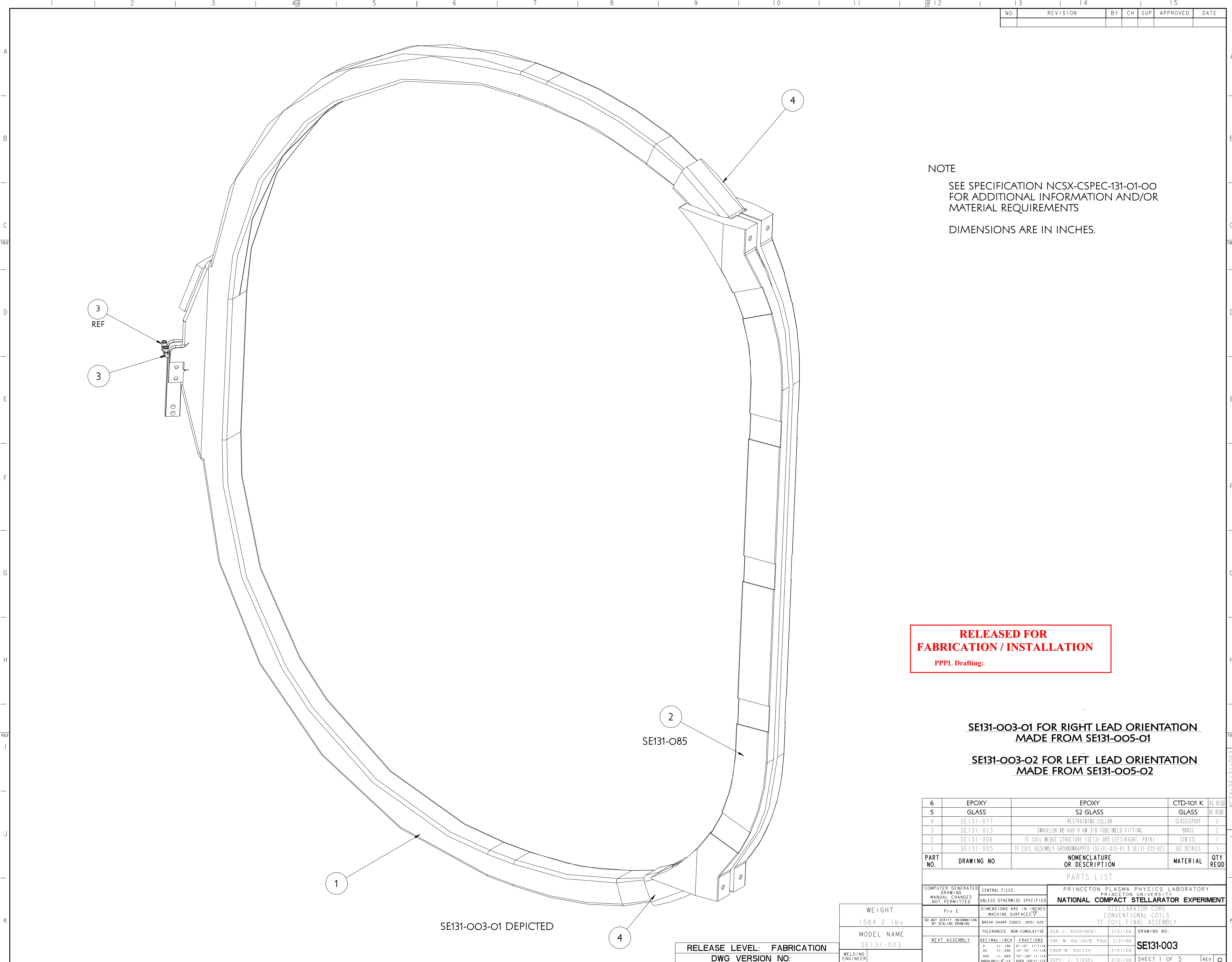


NO.	REVISION	BY	CH	SUP	APPROVED	DATE



NOTE  
 SEE SPECIFICATION NCSX-CSPEC-131-01-00  
 FOR ADDITIONAL INFORMATION AND/OR  
 MATERIAL REQUIREMENTS  
 DIMENSIONS ARE IN INCHES.

**RELEASED FOR  
 FABRICATION / INSTALLATION**  
 PPPL Drafting:

**SE131-003-01 FOR RIGHT LEAD ORIENTATION  
 MADE FROM SE131-005-01**

**SE131-003-02 FOR LEFT LEAD ORIENTATION  
 MADE FROM SE131-005-02**

6	EPOXY	EPOXY	CTD-101 K	AS REQD
5	GLASS	S2 GLASS	GLASS	AS REQD
4	SE131-077	RESTRAINING COLLAR	GLASS/EPOXY	2
3	SE131-013	SWAGelok #B-600-9-6W 3/8 TUBE/WELD FITTING	BRASS	2
2	SE131-006	TF COIL WEDGE STRUCTURE (SE131-085 LEFT/RIGHT PAIR)	STN STL	1
1	SE131-005	TF COIL ASSEMBLY GROUNDWRAPPED (SE131-035-01 & SE131-035-02)	SEE DETAILS	1
PART NO.	DRAWING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	QTY REQD

PARTS LIST

COMPUTER GENERATED DRAWING MANUAL CHANGES NOT PERMITTED Pro E	CENTRAL FILES: UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES MACHINE SURFACES BREAK SHARP EDGES .005/.020	PRINCETON PLASMA PHYSICS LABORATORY PRINCETON UNIVERSITY <b>NATIONAL COMPACT STELLARATOR EXPERIMENT</b> STELLARATOR CORE CONVENTIONAL COILS TF COIL FINAL ASSEMBLY			
DO NOT VERIFY INFORMATION BY SCALING DRAWING	TOLERANCES NON-CUMULATIVE	DSN: J. RUSHINSKI	2/01/06	DRAWING NO:	
NEXT ASSEMBLY	DECIMAL-INCH FRACTIONS	CHK: M. KALISH/B. PAUL	2/01/06	<b>SE131-003</b>	
	.XX +/- .030	ENGR: M. KALISH	2/01/06		
	.XXX +/- .005	SUPV: J. SIEGEL	2/01/06	SHEET 1 OF 5	
	ANGULAR +/- .015			REV 0	

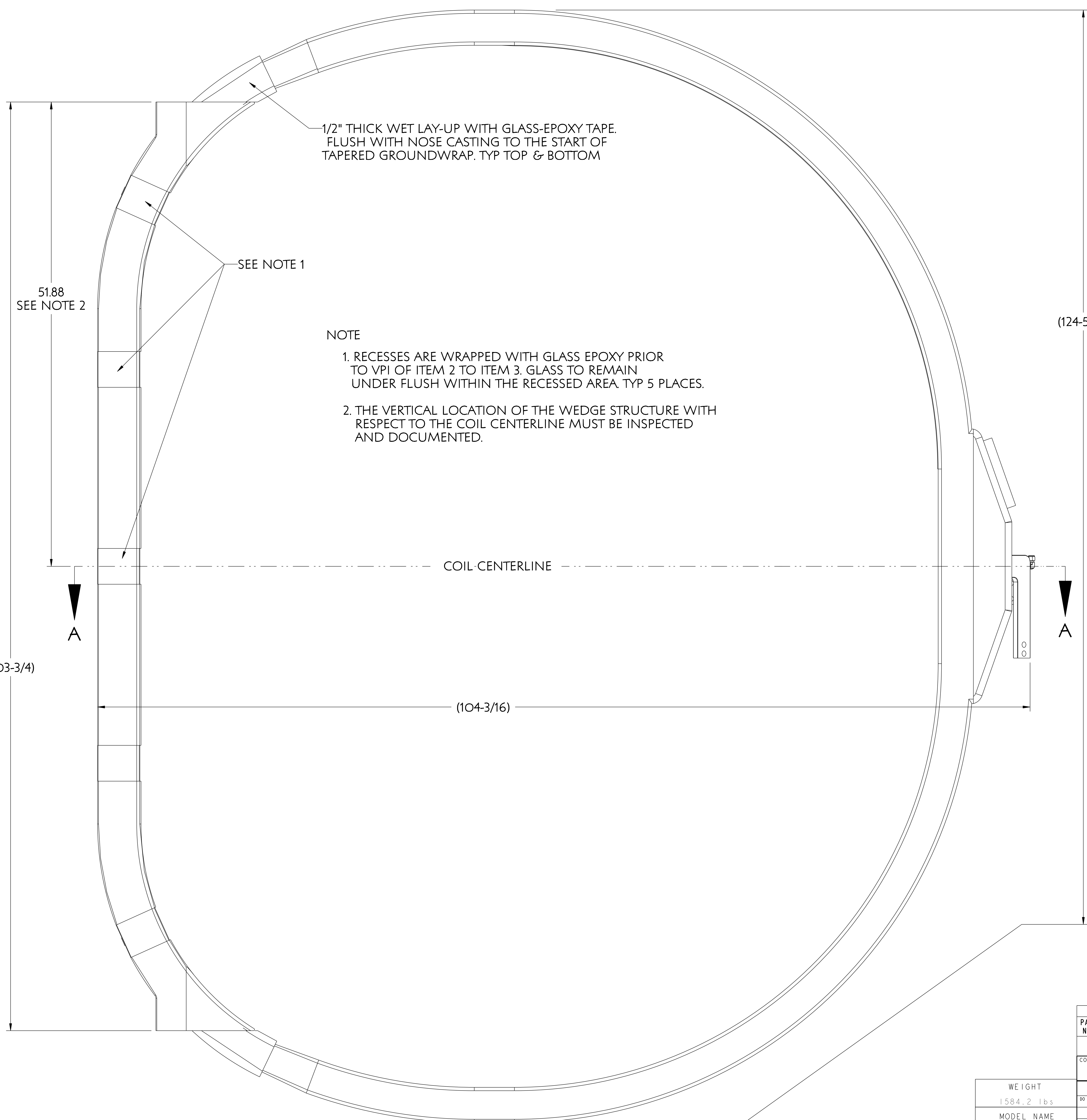
WEIGHT	1584.2 lbs
MODEL NAME	SE131-003
WELDING ENGINEER	

**RELEASE LEVEL: FABRICATION  
 DWG VERSION NO:**

SE131-003-01 DEPICTED

NCSX-SE131-003

NO.	REVISION	BY	CH	SUP	APPROVED	DATE



1/2" THICK WET LAY-UP WITH GLASS-EPOXY TAPE.  
FLUSH WITH NOSE CASTING TO THE START OF  
TAPERED GROUNDWRAP. TYP TOP & BOTTOM

SEE NOTE 1

51.88  
SEE NOTE 2

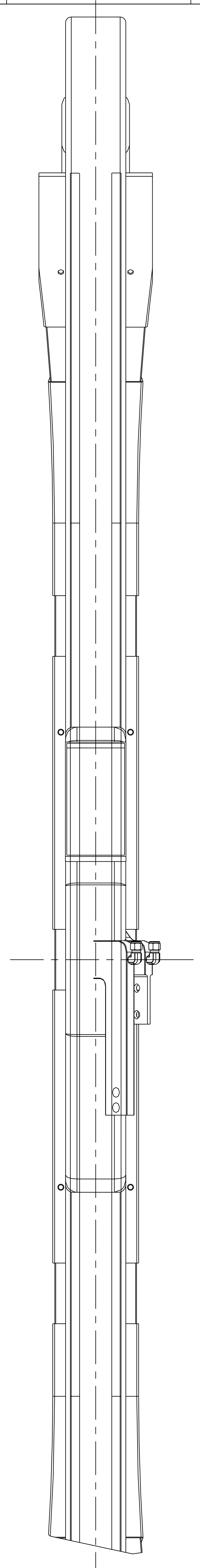
- NOTE
1. RECESSES ARE WRAPPED WITH GLASS EPOXY PRIOR TO VPI OF ITEM 2 TO ITEM 3. GLASS TO REMAIN UNDER FLUSH WITHIN THE RECESSED AREA. TYP 5 PLACES.
  2. THE VERTICAL LOCATION OF THE WEDGE STRUCTURE WITH RESPECT TO THE COIL CENTERLINE MUST BE INSPECTED AND DOCUMENTED.

COIL-CENTERLINE

(124-5/16)

(103-3/4)

(104-3/16)



**RELEASED FOR  
FABRICATION / INSTALLATION**  
PPPL Drafting:

RELEASE LEVEL: Fabrication  
DWG VERSION NO: 5

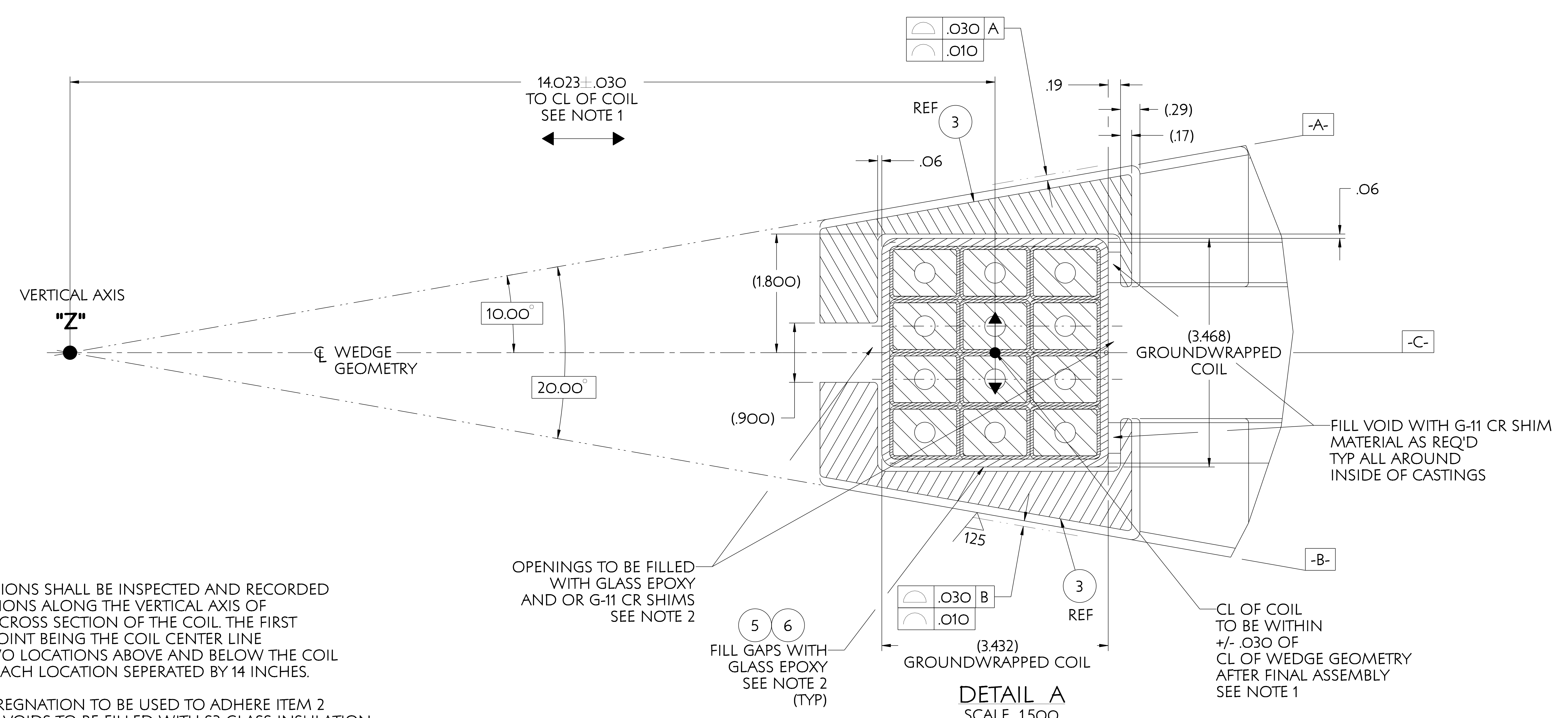
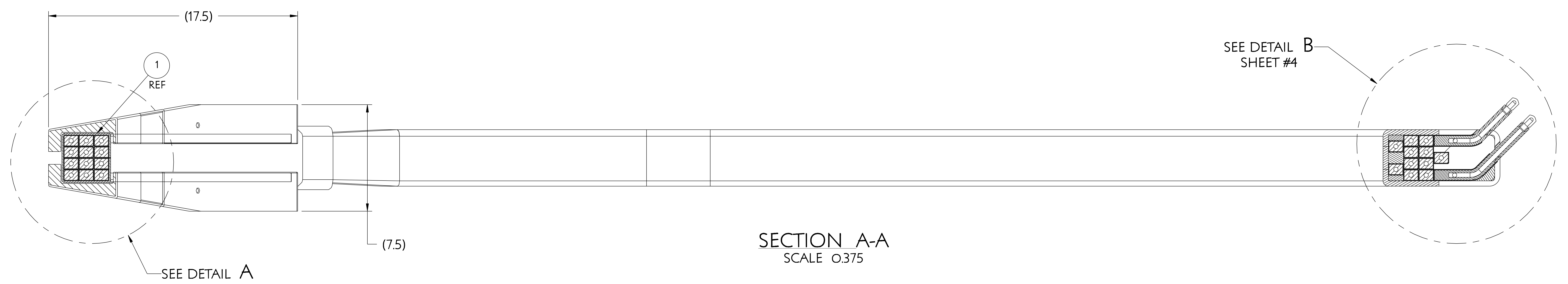
WEIGHT  
1584.2 lbs

MODEL NAME  
SE131-003

WELDING  
ENGINEER

PART NO.	DRAWING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	QTY	REOD
PARTS LIST					
COMPUTER GENERATED DRAWING MANUAL CHANGES NOT PERMITTED		CENTRAL FILES: UNLESS OTHERWISE SPECIFIED	PRINCETON PLASMA PHYSICS LABORATORY PRINCETON UNIVERSITY NATIONAL COMPACT STELLARATOR EXPERIMENT		
DO NOT VERIFY INFORMATION BY SCALING DRAWING		DIMENSIONS ARE IN INCHES MACHINE SURFACES BREAK SHARP EDGES .005/.020	STELLARATOR CORE CONVENTIONAL COILS TF COIL FINAL ASSEMBLY		
NEXT ASSEMBLY		TOLERANCES NON-CUMULATIVE DECIMAL-INCH FRACTIONS .XX ±.030 .XXX ±.005 ANGULAR ±.0°-15'	DSN: J. RUSHINSKI CHK: M. KALISH/B. PAUL ENGR: M. KALISH SUPV: J. SIEGEL	2/01/06 2/01/06 2/01/06 2/01/06	DRAWING NO: <b>SE131-003</b> SHEET 2 OF 5 REV 0

NCSX-SE131-003



- NOTE**
1. THESE DIMENSIONS SHALL BE INSPECTED AND RECORDED AT FIVE LOCATIONS ALONG THE VERTICAL AXIS OF THE WEDGED CROSS SECTION OF THE COIL. THE FIRST INSPECTION POINT BEING THE COIL CENTER LINE AND THEN TWO LOCATIONS ABOVE AND BELOW THE COIL CENTER LINE EACH LOCATION SEPERATED BY 14 INCHES.
  2. VACUUM IMPREGNATION TO BE USED TO ADHERE ITEM 2 TO ITEM 3. ALL VOIDS TO BE FILLED WITH S2 GLASS INSULATION TO ELIMINATE RESIN RICH AREAS. GLASS THICKNESS INSIDE WEDGE STRUCTURE TO BE ADJUSTED TO ACHIEVE REQUIRED DIMENSIONS WITHIN TOLERANCE.
  3. ITEM 3 WEDGE STRUCTURE AND COIL SURFACE TO BE ROUGHENED BEFORE VPI TO ENSURE BEST POSSIBLE ADHESION.
  4. POCKETS IN ITEM 3 ON MATING SURFACES TO BE FILLED WITH GLASS TAPE PRIOR TO VPI.

**RELEASED FOR  
FABRICATION / INSTALLATION**

PPPL Drafting:

RELEASE LEVEL: Fabrication  
DWG VERSION NO: 5

WEIGHT  
1584.2 lbs

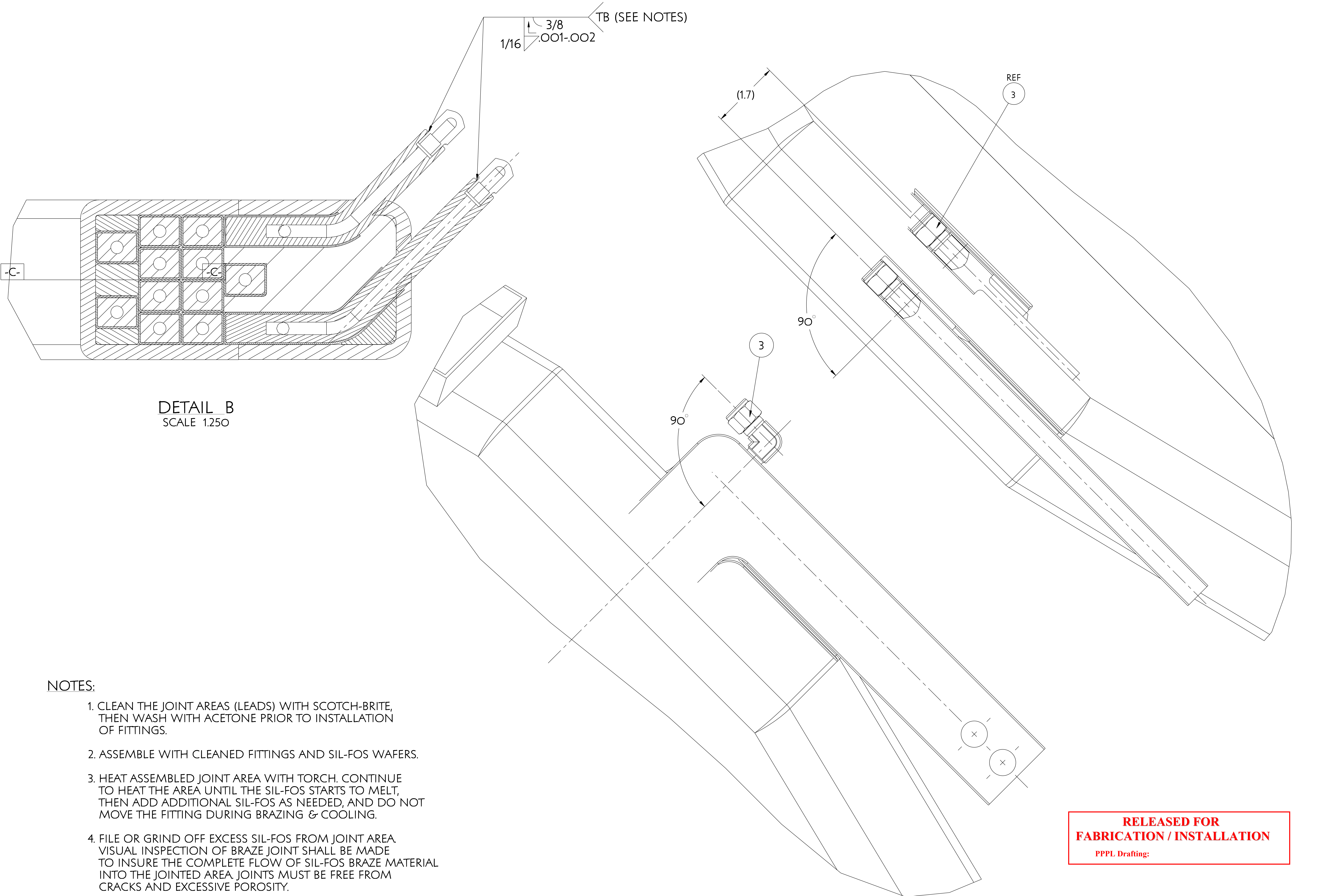
MODEL NAME  
SE131-003

WELDING  
ENGINEER

PART NO.	DRAWING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	QTY	RECD
PARTS LIST					
COMPUTER GENERATED DRAWING MANUAL CHANGES NOT PERMITTED Pro E		CENTRAL FILES: UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES MACHINE SURFACES BREAK SHARP EDGES .005/.020	PRINCETON PLASMA PHYSICS LABORATORY PRINCETON UNIVERSITY <b>NATIONAL COMPACT STELLARATOR EXPERIMENT</b>		
DO NOT VERIFY INFORMATION BY SCALING DRAWING		TOLERANCES NON-CUMULATIVE DECIMAL-INCH FRACTIONS .XX +/- .000 .XXX +/- .005 ANGULAR +/- .015	DSN: J. RUSHINSKI CHK: M. KALISH/B. PAUL ENGR: M. KALISH SUPV: J. SIEGEL	2/01/06 2/01/06 2/01/06	DRAWING NO: <b>SE131-003</b> SHEET 3 OF 5 REV 0

NCSX-SE131-003

NO.	REVISION	BY	CH	SUP	APPROVED	DATE



DETAIL B  
SCALE 1.250

NOTES:

- CLEAN THE JOINT AREAS (LEADS) WITH SCOTCH-BRITE, THEN WASH WITH ACETONE PRIOR TO INSTALLATION OF FITTINGS.
- ASSEMBLE WITH CLEANED FITTINGS AND SIL-FOS WAFERS.
- HEAT ASSEMBLED JOINT AREA WITH TORCH. CONTINUE TO HEAT THE AREA UNTIL THE SIL-FOS STARTS TO MELT, THEN ADD ADDITIONAL SIL-FOS AS NEEDED, AND DO NOT MOVE THE FITTING DURING BRAZING & COOLING.
- FILE OR GRIND OFF EXCESS SIL-FOS FROM JOINT AREA. VISUAL INSPECTION OF BRAZE JOINT SHALL BE MADE TO INSURE THE COMPLETE FLOW OF SIL-FOS BRAZE MATERIAL INTO THE JOINTED AREA. JOINTS MUST BE FREE FROM CRACKS AND EXCESSIVE POROSITY.
- PROTECT TURN AND GROUNDWRAP INSULATION FROM DAMAGE DURING ALL TORCH BRAZING OPERATIONS
- SEE SPECIFICATION FOR QUALIFICATION AND TESTING REQUIREMENTS OF ALL BRAZE JOINTS.
- FITTING (PART #4) TO BE BRAZED TO LEAD PRIOR TO GROUNDWRAP AND VPI.

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PPPL Drafting:

RELEASE LEVEL: Fabrication  
DWG VERSION NO: 5

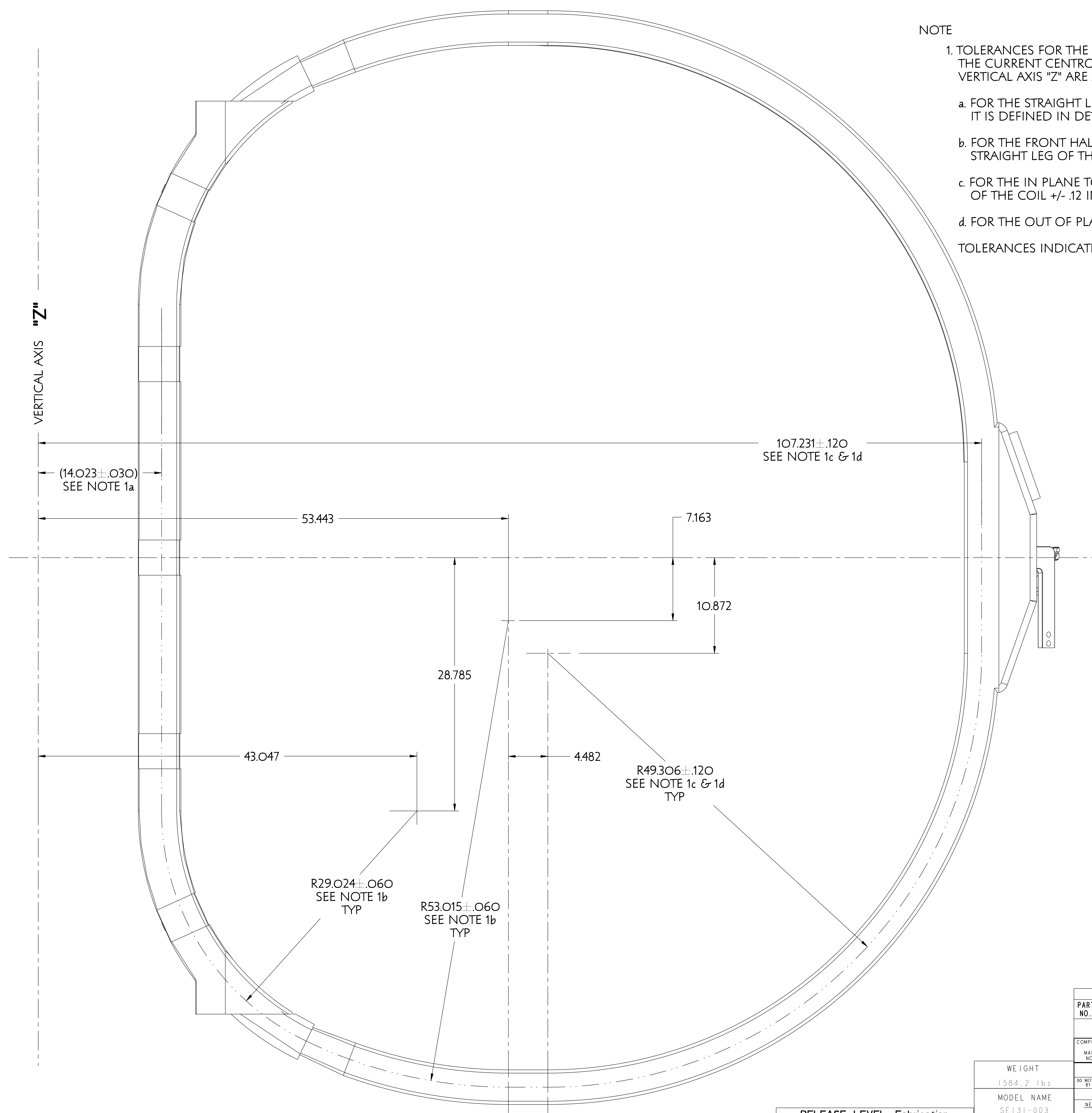
WEIGHT	1584.2 lbs
MODEL NAME	SE131-003
WELDING ENGINEER	

PART NO.	DRAWING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	QTY	REOD
PARTS LIST					
COMPUTER GENERATED DRAWING MANUAL CHANGES NOT PERMITTED Pro E		CENTRAL FILES: UNLESS OTHERWISE SPECIFIED	PRINCETON PLASMA PHYSICS LABORATORY PRINCETON UNIVERSITY NATIONAL COMPACT STELLARATOR EXPERIMENT		
DO NOT VERIFY INFORMATION BY SCALING DRAWING		BREAK SHARP EDGES .005/.020	STELLARATOR CORE CONVENTIONAL COILS TF COIL FINAL ASSEMBLY		
NEXT ASSEMBLY		TOLERANCES NON-CUMULATIVE DECIMAL-INCH FRACTIONS .XX +/- .000 .XXX +/- .005 ANGULAR +/- .15°	DSN: J. RUSHINSKI 2/01/06 CHK M. KALISH/B. PAUL 2/01/06 ENGR: M. KALISH 2/01/06 SUPV: J. SIEGEL 2/01/06	DRAWING NO: <b>SE131-003</b> SHEET 4 OF 5 REV 0	

NCSX-SE131-003

NOTE

1. TOLERANCES FOR THE NOMINAL POSITION OF THE CURRENT CENTROID WITH RESPECT TO VERTICAL AXIS "Z" ARE AS FOLLOWS:
    - a. FOR THE STRAIGHT LEG UNDER THE WEDGE STRUCTURE IT IS DEFINED IN DETAIL "A" ON SHEET 3.
    - b. FOR THE FRONT HALF OF THE COIL EXCLUSIVE OF THE STRAIGHT LEG OF THE WEDGE STRUCTURE +/- .060 INCHES.
    - c. FOR THE IN PLANE TOLERANCE ON THE BACK HALF (LEAD END) OF THE COIL +/- .12 INCHES.
    - d. FOR THE OUT OF PLANE BACK HALF (LEAD END) OF THE COIL +/- .06 INCHES.
- TOLERANCES INDICATED FOR THE COIL IN THE UN-RESTRAINED CONDITION.



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PPPL Drafting:

RELEASE LEVEL: Fabrication  
DWG VERSION NO: 5

WEIGHT  
1584.2 lbs

MODEL NAME  
SEI31-003

WELDING  
ENGINEER

PART NO.	DRAWING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	QTY	RECD
PARTS LIST					
COMPUTER GENERATED DRAWING DRAWING CHANGES NOT PERMITTED		CENTRAL FILES: UNLESS OTHERWISE SPECIFIED	PRINCETON PLASMA PHYSICS LABORATORY PRINCETON UNIVERSITY		
DO NOT VERIFY INFORMATION BY SCALING DRAWING		DIMENSIONS ARE IN INCHES MACHINE SURFACES BREAK SHARP EDGES .005/.020	NATIONAL COMPACT STELLARATOR EXPERIMENT		
TOLERANCES NON-CUMULATIVE		DSN: J. RUSHINSKI	2/01/06	DRAWING NO:	
NEXT ASSEMBLY		DECIMAL-INCH FRACTIONS .X +/- .100 0°-12° +/- .100 .XX +/- .030 12°-72° +/- .100 .XXX +/- .005 72°-120° +/- .100 ANGULAR +/- 0°-15° OVER 120° +/- .100	CHK: M. KALISH	2/01/06	SEI31-003
		SUPV: J. SIEGEL	2/01/06	SHEET 5 OF 5	REV 0

NCSX-SEI31-003