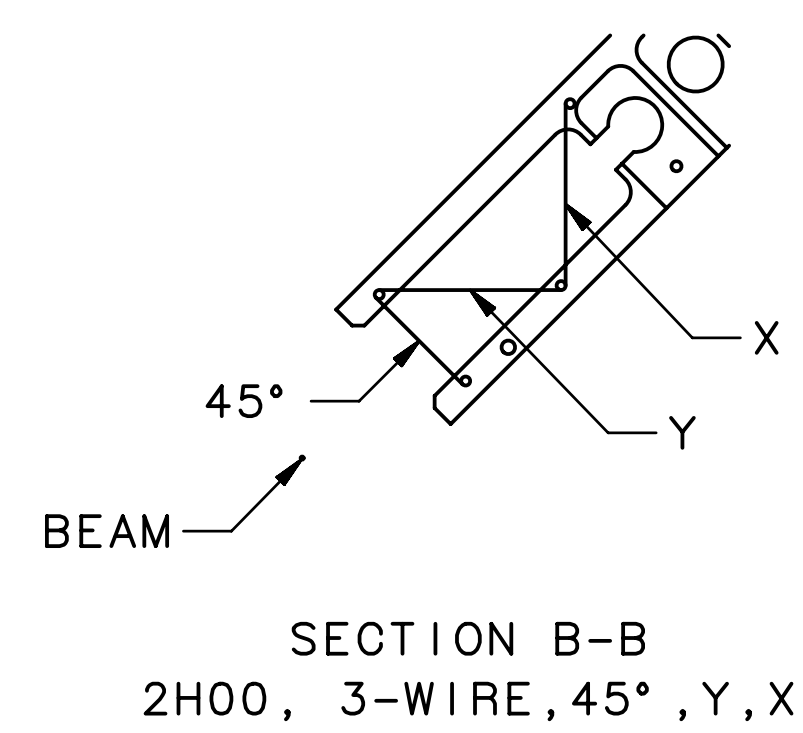
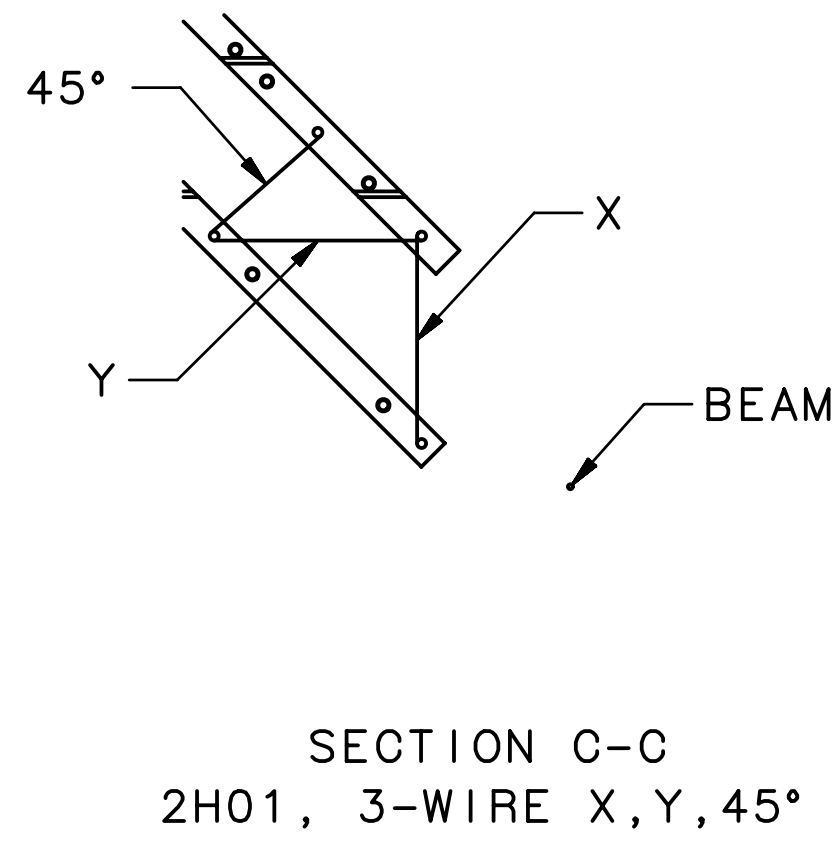


REVISION HISTORY		
ZONE	REV	DESCRIPTION

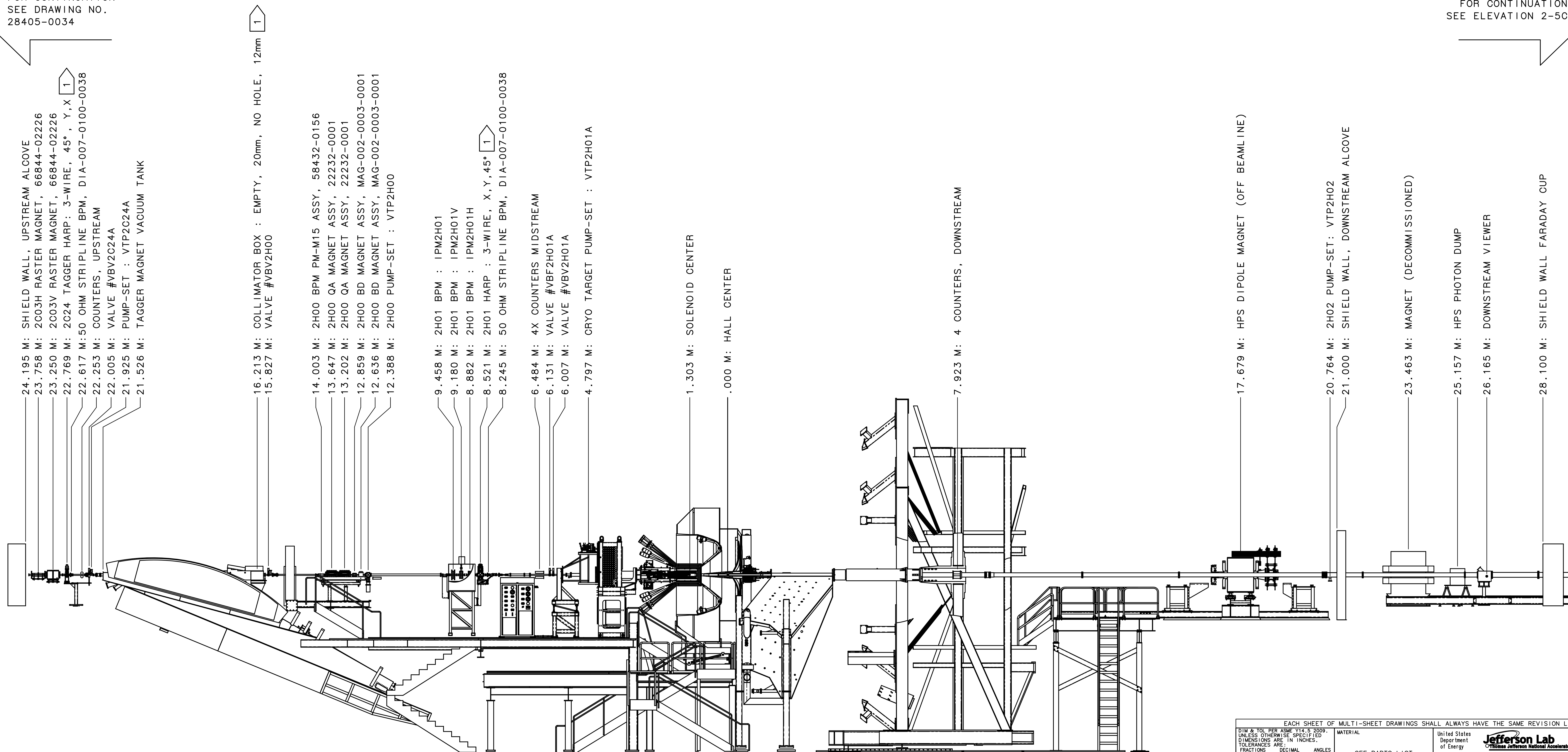
NOTES

- ELEMENTS CROSS THE ELECTRON BEAM AS READ (FROM LEFT-TO-RIGHT)
- MACHINE CENTER IS 400.0948 METERS UPSTREAM OF "HALL CENTER"
- CONTENTS:
PAGE 1: COMPONENT POSITIONING FOR REFERENCE BY COUNTING-ROOM & MCC OPERATORS
PAGE 2: COMPONENT POSITIONING FOR REFERENCE BY COUNTING-ROOM & MCC OPERATORS CONT'D
PAGE 3: COMPONENT IDENTIFICATION FOR INSTALLATION BY TECHNICAL STAFF
PAGE 4: BEAMLINE SHIELDING
PAGE 5: IDENTIFICATION OF MATERIALS IN THE BEAM
- BEAM-TUBE IDENTIFICATION:
FORMAT: A - B - C, L
A = UPSTREAM FLANGE SIZE
B = TUBE OD
C = DOWNSTREAM FLANGE SIZE
L = LENGTH
CONFLAT FLANGES UNLESS SPECIFIED
- DRAWING DEPICTS IDEAL INSTALLATION LOCATIONS FOR EQUIPMENT, REFER TO SURVEY TRANSMITTALS FOR FINAL LOCATION



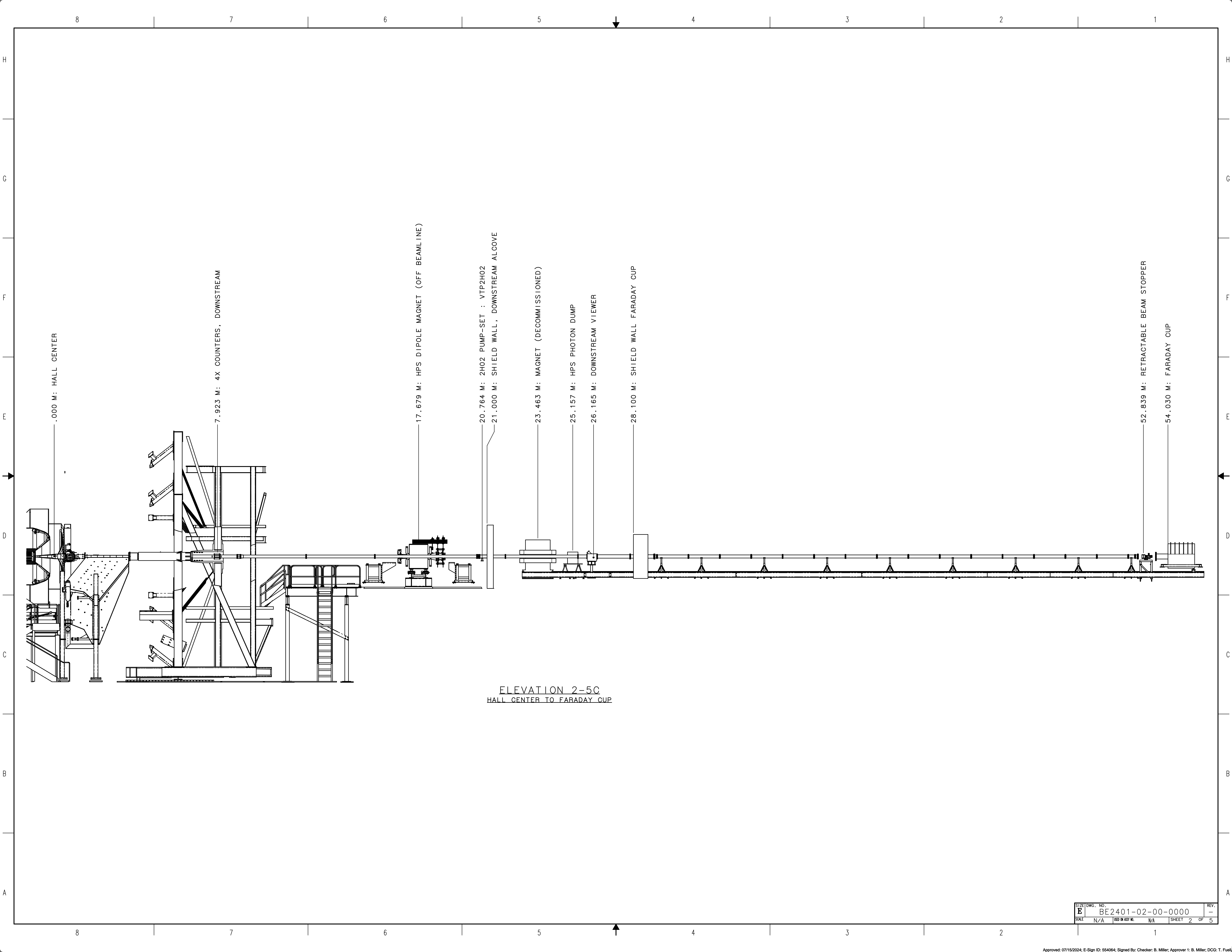
FOR CONTINUATION
SEE DRAWING NO.
28405-0034

FOR CONTINUATION
SEE ELEVATION 2-5C



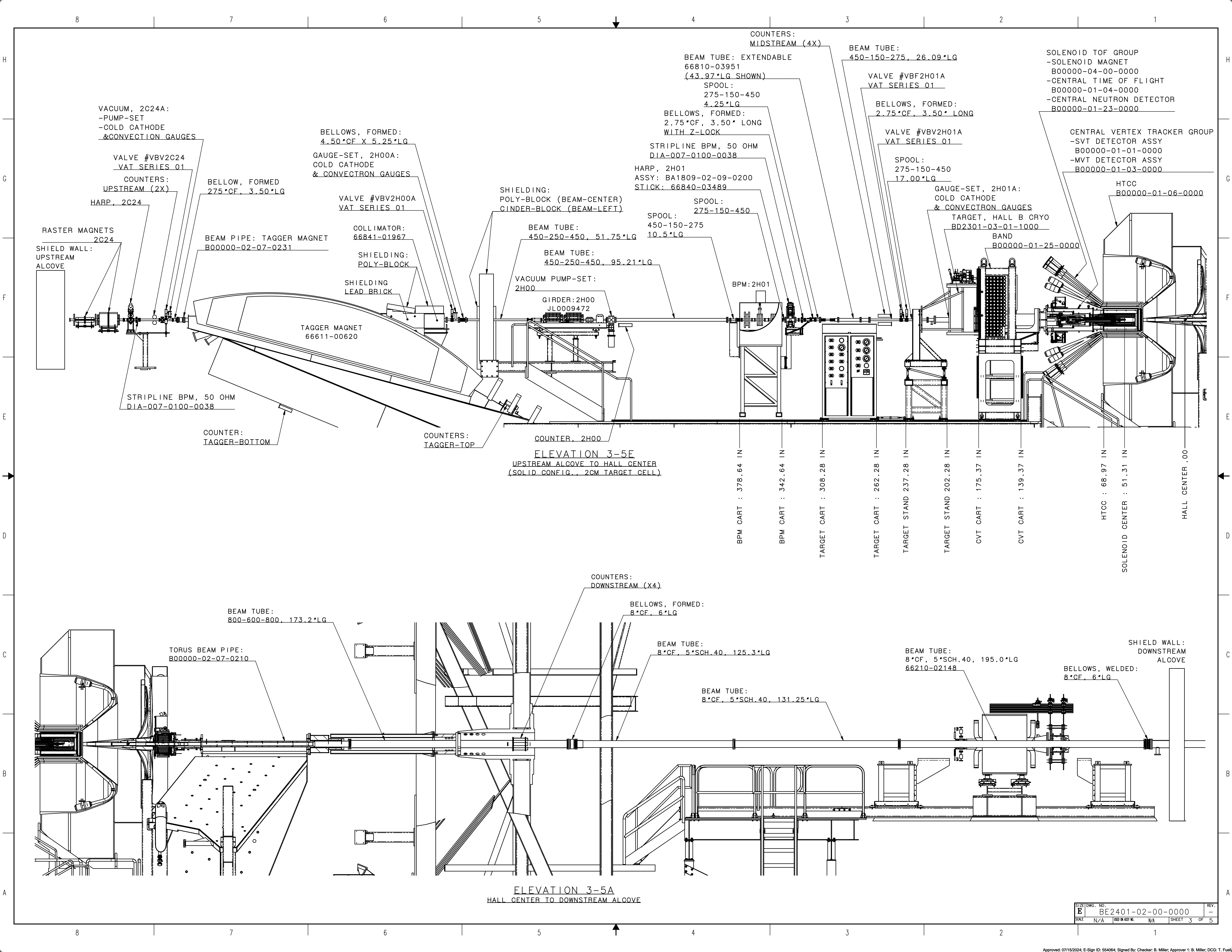
ELEVATION 1-5A
UPSTREAM ALCOVE TO DOWNSTREAM ALCOVE
(SOLID TARGET CONFIG., 2CM CELL SHOWN)

EACH SHEET OF MULTI-SHEET DRAWINGS SHALL ALWAYS HAVE THE SAME REVISION LEVEL.		United States Department of Energy	
DIN & TOL PER ASME Y14.5 2009. UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ARE:			
FRACTIONS ± 1/32	DECIMAL ± .01	ANGLES ± 30'	SEE PARTS LIST BE2401 HALL B, RN GRPE, 2024 02 BEAM LINE 0000 INSTALLATION TEMPLATE 0000 BEAMLINE ASSEMBLY
THIRD ANGLE PROJECTION	FINISH MACHINED SURFACES DEBUR & BREAK ALL SHARP EDGES	UNLESS OTHERWISE NOTED	SIZE DWG. NO. BE2401-02-00-0000 DATE 11/2/2023 SCALE N/A SHEET 1 OF 5
DO NOT SCALE DRAWING	DRAWN CHRIS QUIRIE	DATE 11/2/2023	REV. -



ELEVATION 2-5C
HALL CENTER TO FARADAY CUP

SIZE	DWG. NO.	REV.
E	BE2401-02-00-0000	-
SCALE	ISS. OR ASSY NO.	SHEET
N/A	N/A	2 OF 5



VACUUM, 2C24A:
-PUMP-SET
-COLD CATHODE
& CONVECTION GAUGES

VALVE #VBV2C24
VAT SERIES 01

COUNTERS:
UPSTREAM (2X)
HARP, 2C24

RASTER MAGNETS
2C24
SHIELD WALL:
UPSTREAM
ALCOVE

BELLOW, FORMED
275*CF, 3.50*LG

BEAM PIPE: TAGGER MAGNET
B00000-02-07-0231

BELLOWS, FORMED:
4.50*CF X 5.25*LG

GAUGE-SET, 2H00A:
COLD CATHODE
& CONVECTRON GAUGES

VALVE #VBV2H00A
VAT SERIES 01

COLLIMATOR:
66841-01967

SHIELDING:
POLY-BLOCK

SHIELDING
LEAD BRICK

TAGGER MAGNET
66611-00620

SHIELDING:
POLY-BLOCK (BEAM-CENTER)
CINDER-BLOCK (BEAM-LEFT)

BEAM TUBE:
450-250-450, 51.75*LG

BEAM TUBE:
450-250-450, 95.21*LG

VACUUM PUMP-SET:
2H00

GIRDER: 2H00
JL0009472

STRIPLINE BPM, 50 OHM
DIA-007-0100-0038

HARP, 2H01
ASSY: BA1809-02-09-0200
STICK: 66840-03489

SPOOL:
275-150-450
10.5*LG

SPOOL:
450-150-275
10.5*LG

BPM: 2H01

COUNTERS:
MIDSTREAM (4X)

BEAM TUBE: EXTENDABLE
66810-03951
(43.97*LG SHOWN)

SPOOL:
275-150-450
4.25*LG

BELLOWS, FORMED:
2.75*CF, 3.50* LONG
WITH Z-LOCK

BEAM TUBE:
450-150-275, 26.09*LG

VALVE #VBV2H01A
VAT SERIES 01

BELLOWS, FORMED:
2.75*CF, 3.50* LONG

VALVE #VBV2H01A
VAT SERIES 01

SPOOL:
275-150-450
17.00*LG

GAUGE-SET, 2H01A:
COLD CATHODE
& CONVECTRON GAUGES

TARGET, HALL B CRYO
BD2301-03-01-1000

BAND
B00000-01-25-0000

SOLENOID TOF GROUP
-SOLENOID MAGNET
B00000-04-00-0000
-CENTRAL TIME OF FLIGHT
B00000-01-04-0000
-CENTRAL NEUTRON DETECTOR
B00000-01-23-0000

CENTRAL VERTEX TRACKER GROUP
-SVT DETECTOR ASSY
B00000-01-01-0000
-MVT DETECTOR ASSY
B00000-01-03-0000

HTCC
B00000-01-06-0000

STRIPLINE BPM, 50 OHM
DIA-007-0100-0038

COUNTER:
TAGGER-BOTTOM

COUNTERS:
TAGGER-TOP

COUNTER, 2H00

ELEVATION 3-5E
UPSTREAM ALCOVE TO HALL CENTER
(SOLID CONFIG., 2CM TARGET CELL)

BPM CART : 378.64 IN

BPM CART : 342.64 IN

TARGET CART : 308.28 IN

TARGET CART : 262.28 IN

TARGET STAND 237.28 IN

TARGET STAND 202.28 IN

CVT CART : 175.37 IN

CVT CART : 139.37 IN

HTCC : 68.97 IN

SOLENOID CENTER : 51.31 IN

HALL CENTER .00

BEAM TUBE:
800-600-800, 173.2*LG

TORUS BEAM PIPE:
B00000-02-07-0210

COUNTERS:
DOWNSTREAM (X4)

BELLOWS, FORMED:
8*CF, 6*LG

BEAM TUBE:
8*CF, 5*SCH.40, 125.3*LG

BEAM TUBE:
8*CF, 5*SCH.40, 131.25*LG

BEAM TUBE:
8*CF, 5*SCH.40, 195.0*LG

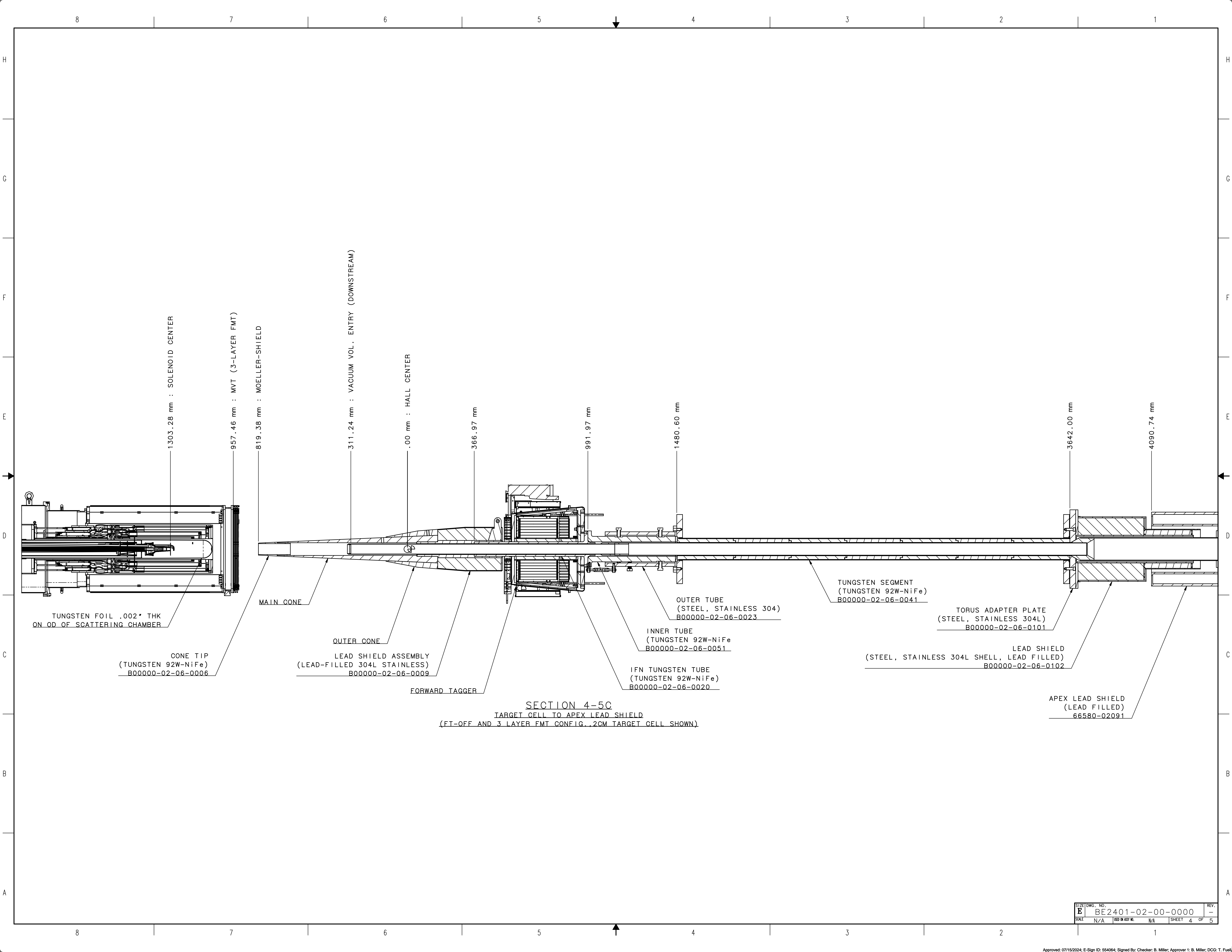
66210-02148

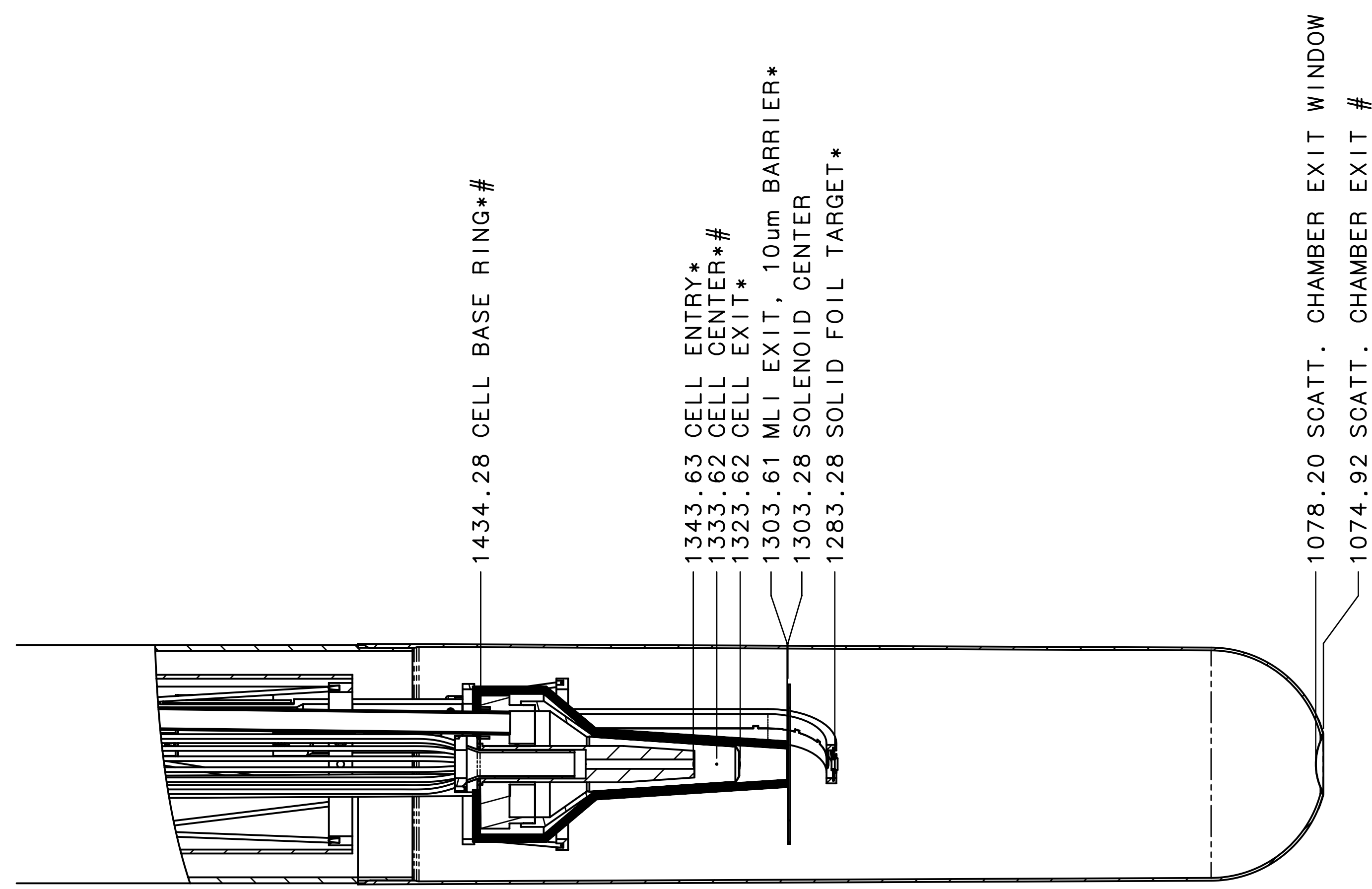
BELLOWS, WELDED:
8*CF, 6*LG

SHIELD WALL:
DOWNSTREAM
ALCOVE

ELEVATION 3-5A
HALL CENTER TO DOWNSTREAM ALCOVE

SIZE DWG. NO. REV.
E BE2401-02-00-0000 -
SCALE N/A (REV OR ASSY NO.) N/A SHEET 3 OF 5





ELEVATION 5-7F
TARGET CELL TO HALL CENTER
(2CM TARGET CELL CONFIG.)

TABLE -A-
MATERIALS IN THE BEAM LINE 2CM TARGET CELL CONFIGURATION

ITEM	DRAWING NO.	MATERIAL	THICKNESS
TARGET CELL ENTRY		ALUMINUM	15um
TARGET CELL EXIT	BE2401-03-01-0200	ALUMINUM	15um
MLI EXIT BARRIER		ALUMINUM	10um
SOLID FOIL 01	-	CARBON	1510 um
SOLID FOIL 02	-	ALUMINUM	1210 um
SOLID FOIL 03	-	COPPER	335 um
SOLID FOIL 04	-	TIN	289 um
SOLID FOIL 05	-	LEAD	143 um
SCATTERING CHAMBER EXIT	B00000-03-01-0300	ALUMINUM	75um
VACUUM VOL. ENTRY (DOWNSTREAM)	B00000-02-07-0210	ALUMINUM	75um

NOTE: WHEN AT OPERATING TEMPERATURE, CELL AND FOIL LOCATIONS DESIGNATED WITH "*" MOVE UPSTREAM APPROXIMATELY 5mm DUE TO THERMAL CONTRACTION.

LOCATIONS DESIGNATED WITH "*" WERE DETERMINED IAW SURVEY TRANSMITTALS B2096 & B2104.