

NOTES

1 ELEMENTS CROSS THE ELECTRON BEAM AS READ (FROM LEFT-TO-RIGHT)

2 MACHINE CENTER IS 400.0948 METERS UPSTREAM OF 'HALL CENTER'

3 CONTENTS:
 PAGE 1: COMPONENT POSITIONING FOR REFERENCE BY COUNTING-ROOM & MCC OPERATORS
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 PAGE 3: COMPONENT IDENTIFICATION FOR INSTALLATION BY TECHNICAL STAFF
 PAGE 4: BEAMLINE SHIELDING
 PAGE 5: IDENTIFICATION OF MATERIALS IN THE BEAM

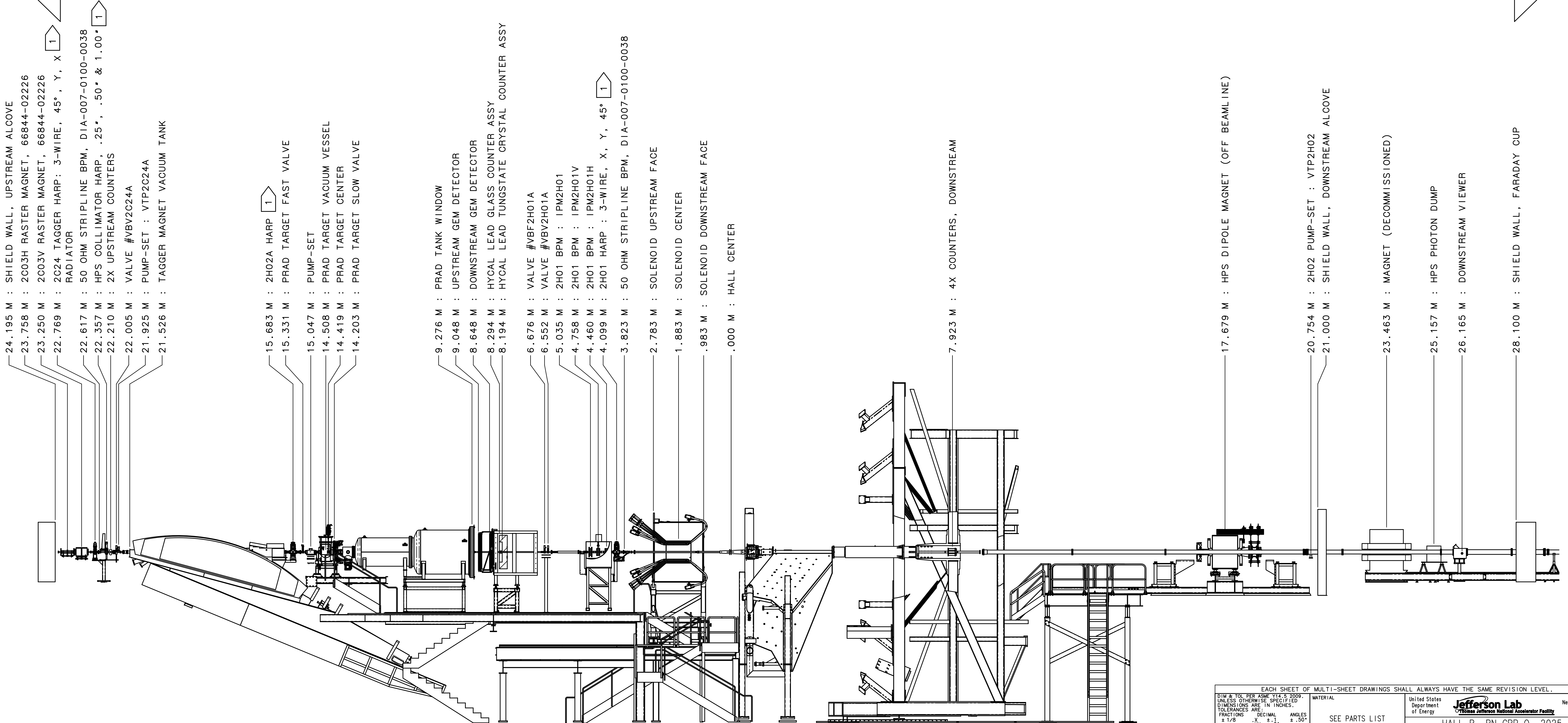
4 BEAM-TUBE IDENTIFICATION:
 FORMAT: A - B - C, L
 A = UPSTREAM FLANGE SIZE
 B = TUBE OD
 C = DOWNSTREAM FLANGE SIZE
 L = LENGTH
 CONFLAT FLANGES UNLESS SPECIFIED

5. DRAWING DEPICTS IDEAL INSTALLATION LOCATIONS FOR EQUIPMENT, REFER TO SURVEY TRANSMITTALS FOR FINAL LOCATION

REVISION HISTORY		
ZONE	REV	DESCRIPTION

FOR CONTINUATION
 SEE DRAWING NO.
 28405-0034

FOR CONTINUATION
 SEE ELEVATION 2-5C



- 24.195 M : SHIELD WALL, UPSTREAM ALCOVE
- 23.758 M : 2C03H RASTER MAGNET, 66844-02226
- 23.250 M : 2C03V RASTER MAGNET, 66844-02226
- 22.769 M : 2C24 TAGGER HARP: 3-WIRE, 45°, Y, X RADIATOR
- 22.617 M : 50 OHM STRIPLINE BPM, DIA-007-0100-0038
- 22.357 M : HPS COLLIMATOR HARP, .25", .50" & 1.00"
- 22.210 M : 2X UPSTREAM COUNTERS
- 22.005 M : VALVE #VBY2024A
- 21.925 M : PUMP-SET : VTP2024A
- 21.526 M : TAGGER MAGNET VACUUM TANK

- 15.683 M : 2H02A HARP
- 15.331 M : PRAD TARGET FAST VALVE
- 15.047 M : PUMP-SET
- 14.508 M : PRAD TARGET VACUUM VESSEL
- 14.419 M : PRAD TARGET CENTER
- 14.203 M : PRAD TARGET SLOW VALVE

- 9.276 M : PRAD TANK WINDOW
- 9.048 M : UPSTREAM GEM DETECTOR
- 8.648 M : DOWNSTREAM GEM DETECTOR
- 8.294 M : HICAL LEAD GLASS COUNTER ASSY
- 8.194 M : HICAL LEAD TUNGSTATE CRYSTAL COUNTER ASSY

- 6.676 M : VALVE #VBF2H01A
- 6.552 M : VALVE #VBY2H01A
- 5.035 M : 2H01 BPM : IPM2H01
- 4.758 M : 2H01 BPM : IPM2H01V
- 4.460 M : 2H01 BPM : IPM2H01H
- 4.099 M : 2H01 HARP : 3-WIRE, X, Y, 45°
- 3.823 M : 50 OHM STRIPLINE BPM, DIA-007-0100-0038

- 2.783 M : SOLENOID UPSTREAM FACE
- 1.883 M : SOLENOID CENTER
- .983 M : SOLENOID DOWNSTREAM FACE
- .000 M : HALL CENTER

- 7.923 M : 4X COUNTERS, DOWNSTREAM

- 17.679 M : HPS DIPOLE MAGNET (OFF BEAMLINE)

- 20.754 M : 2H02 PUMP-SET : VTP2H02
- 21.000 M : SHIELD WALL, DOWNSTREAM ALCOVE

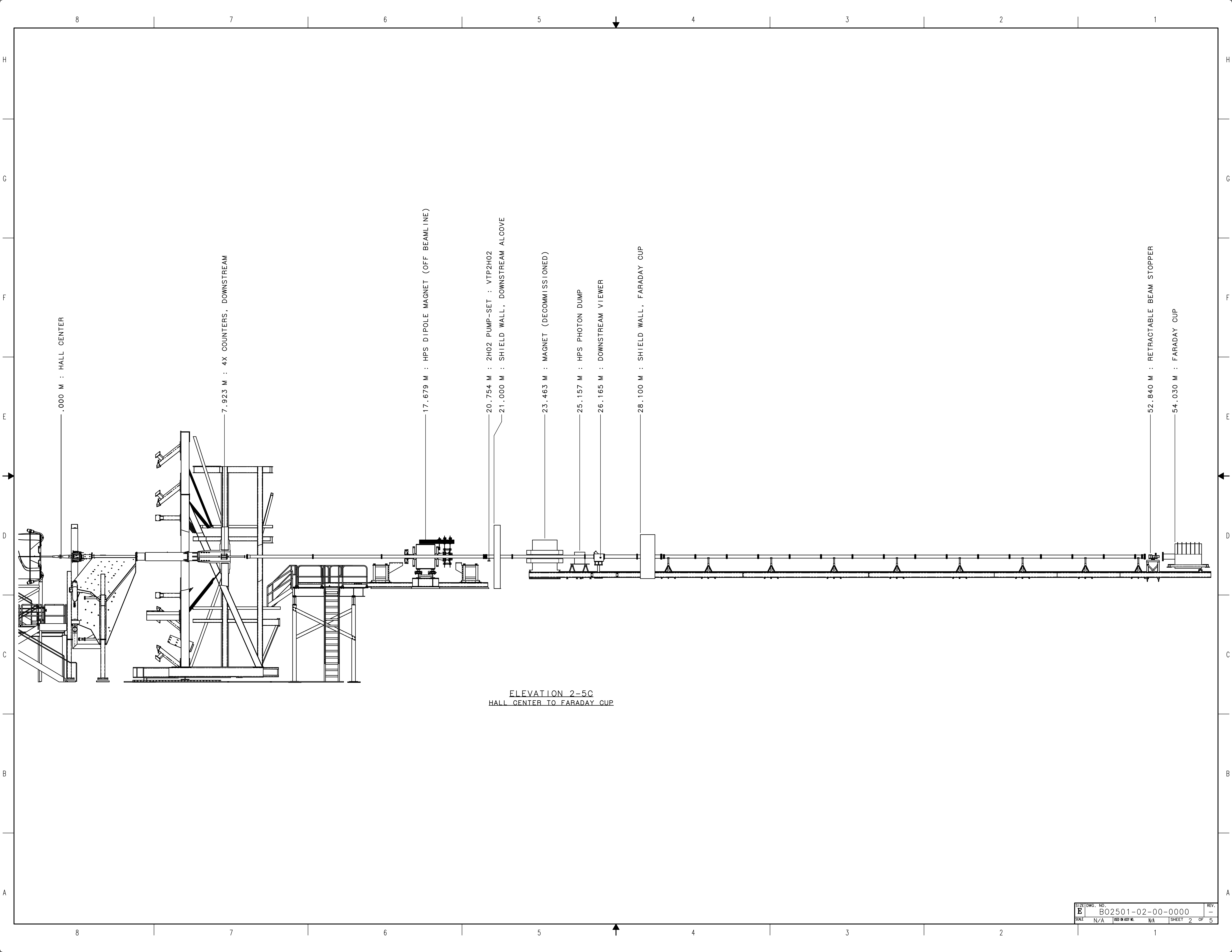
- 23.463 M : MAGNET (DECOMMISSIONED)

- 25.157 M : HPS PHOTON DUMP
- 26.165 M : DOWNSTREAM VIEWER

- 28.100 M : SHIELD WALL, FARADAY CUP

ELEVATION 1-5A
 UPSTREAM ALCOVE TO DOWNSTREAM ALCOVE

EACH SHEET OF MULTI-SHEET DRAWINGS SHALL ALWAYS HAVE THE SAME REVISION LEVEL.		United States Department of Energy	
DIM & TOL PER ASME Y14.5 2009. UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ARE: FRACTIONS DECIMAL ANGLES ± 1/32 ± .01 ± .50° XX ± .01 ± .50° XXX ± .005 ± .50°		Jefferson Lab Thomas Jefferson National Accelerator Facility Newport News, Virginia	
THIRD ANGLE PROJECTION		SEE PARTS LIST	
FINISH MACHINED SURFACES DEBURR & BREAK ALL SHARP EDGES		HALL B, RN GRP 0, 2025 02 BEAM LINE 00 INSTALLATION TEMPLATE BEAMLINE CONFIGURATION	
DO NOT SCALE DRAWING		DRAWN: CHRIS GUTHRIE DATE: 10/24/2024 SCALE: N/A REV: 1 OF 5	



0.000 M : HALL CENTER

7.923 M : 4X COUNTERS, DOWNSTREAM

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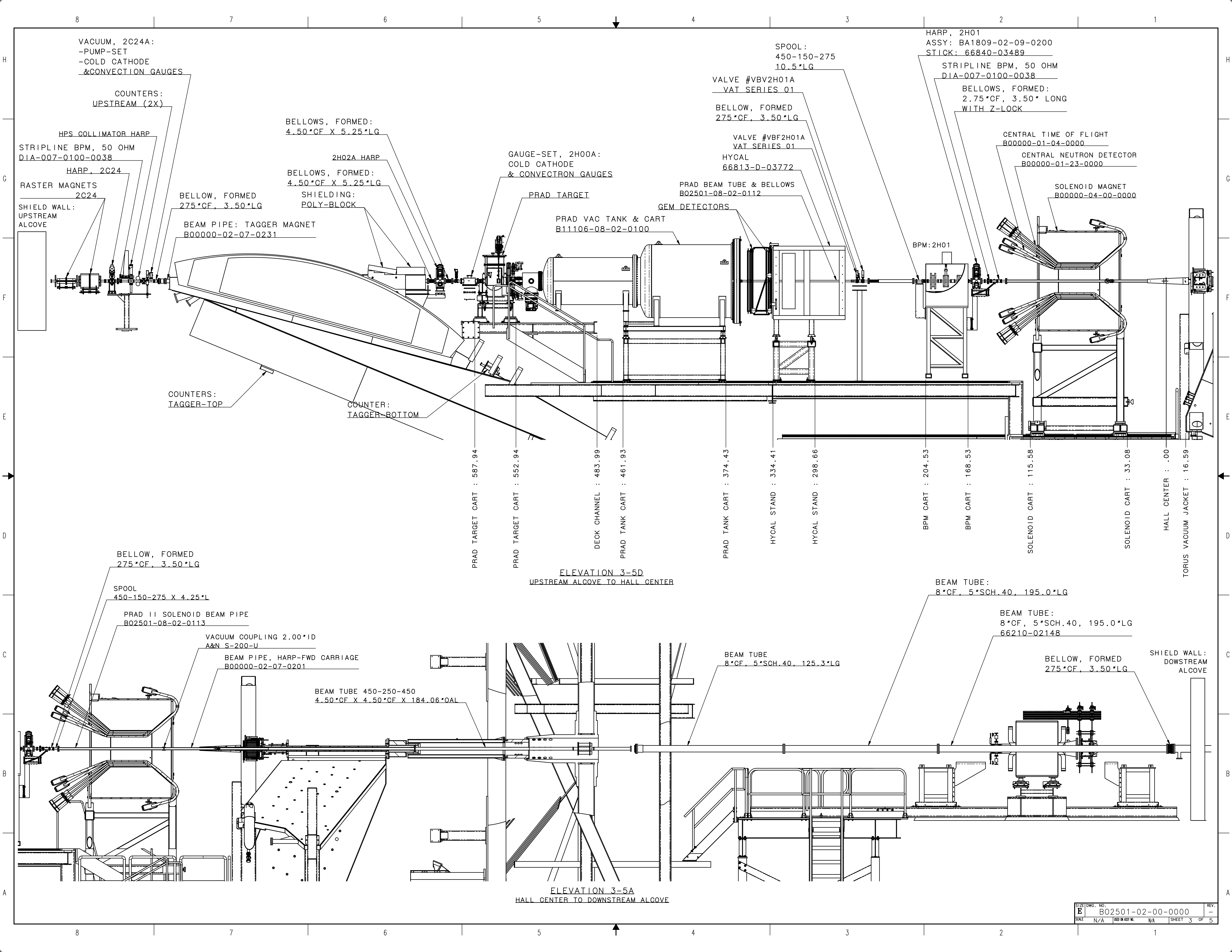
26.165 M : DOWNSTREAM VIEWER

28.100 M : SHIELD WALL, FARADAY CUP

52.840 M : RETRACTABLE BEAM STOPPER

54.030 M : FARADAY CUP

ELEVATION 2-5C
HALL CENTER TO FARADAY CUP



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

COUNTERS:
UPSTREAM (2X)

HPS COLLIMATOR HARP
STRIPLINE BPM, 50 OHM
DIA-007-0100-0038

HARP, 2C24
RASTER MAGNETS
2C24

SHIELD WALL:
UPSTREAM
ALCOVE

BELLOWS, FORMED:
4.50*CF X 5.25*LG

2H02A HARP

BELLOWS, FORMED:
4.50*CF X 5.25*LG

SHIELDING:
POLY-BLOCK

BELLOW, FORMED
275*CF, 3.50*LG

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

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

PRAD TARGET

PRAD VAC TANK & CART
B11106-08-02-0100

GEM DETECTORS

PRAD BEAM TUBE & BELLOWS
B02501-08-02-0112

VALVE #VBV2H01A
VAT SERIES 01

BELLOW, FORMED
275*CF, 3.50*LG

VALVE #VBF2H01A
VAT SERIES 01

HYCAL
66813-D-03772

SPOOL:
450-150-275
10.5*LG

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

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

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

CENTRAL TIME OF FLIGHT
B00000-01-04-0000

CENTRAL NEUTRON DETECTOR
B00000-01-23-0000

SOLENOID MAGNET
B00000-04-00-0000

COUNTERS:
TAGGER-TOP

COUNTER:
TAGGER-BOTTOM

PRAD TARGET CART : 587.94

PRAD TARGET CART : 552.94

DECK CHANNEL : 483.99

PRAD TANK CART : 461.93

PRAD TANK CART : 374.43

HYCAL STAND : 334.41

HYCAL STAND : 298.66

BPM CART : 204.53

BPM CART : 168.53

SOLENOID CART : 115.58

SOLENOID CART : 33.08

HALL CENTER : .00

TORUS VACUUM JACKET : 16.59

ELEVATION 3-5D
UPSTREAM ALCOVE TO HALL CENTER

BELLOW, FORMED
275*CF, 3.50*LG

SPOOL
450-150-275 X 4.25*L

PRAD II SOLENOID BEAM PIPE
B02501-08-02-0113

VACUUM COUPLING 2.00*ID
A&N S-200-U

BEAM PIPE, HARP-FWD CARRIAGE
B00000-02-07-0201

BEAM TUBE 450-250-450
4.50*CF X 4.50*CF X 184.06*OAL

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

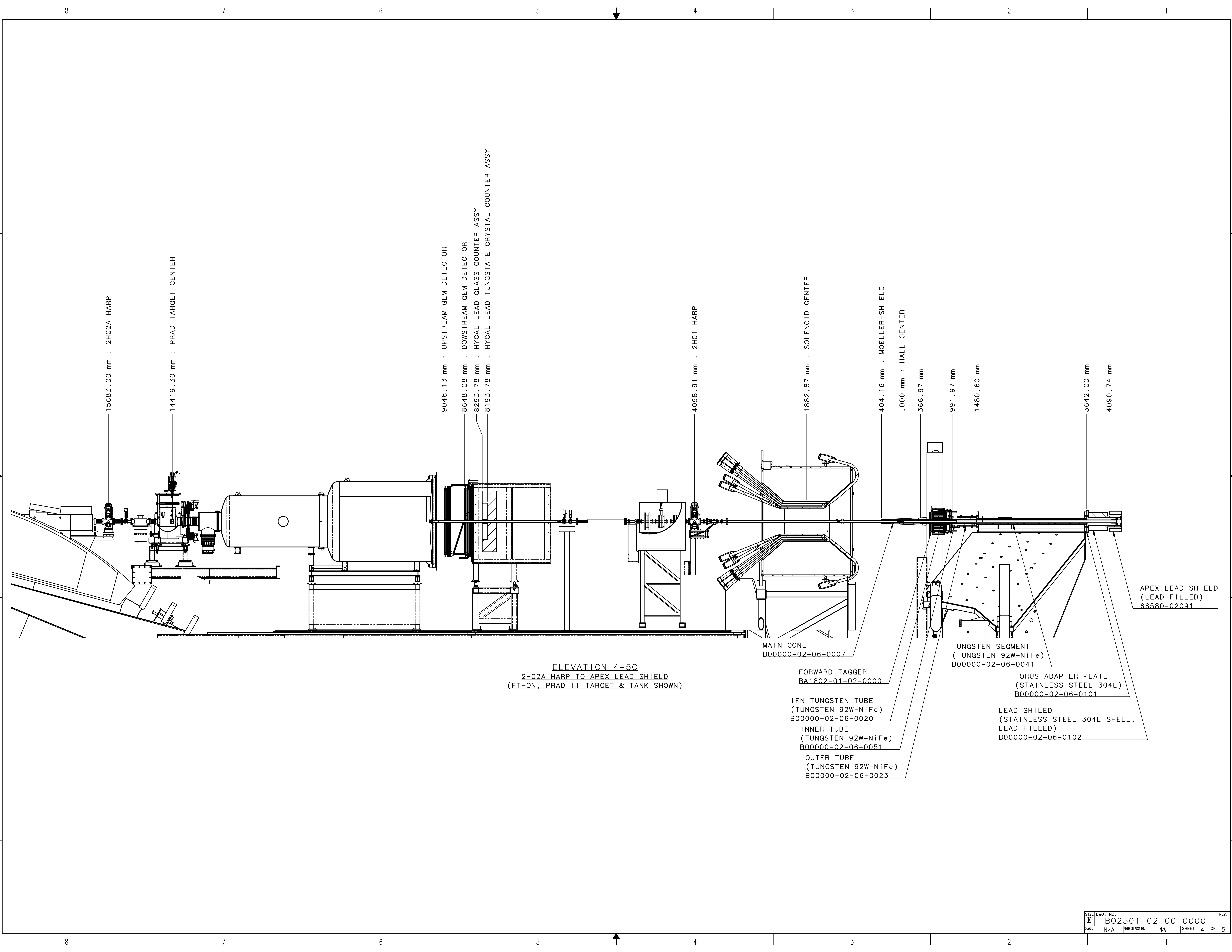
BEAM TUBE:
8*CF, 5*SCH.40, 195.0*LG

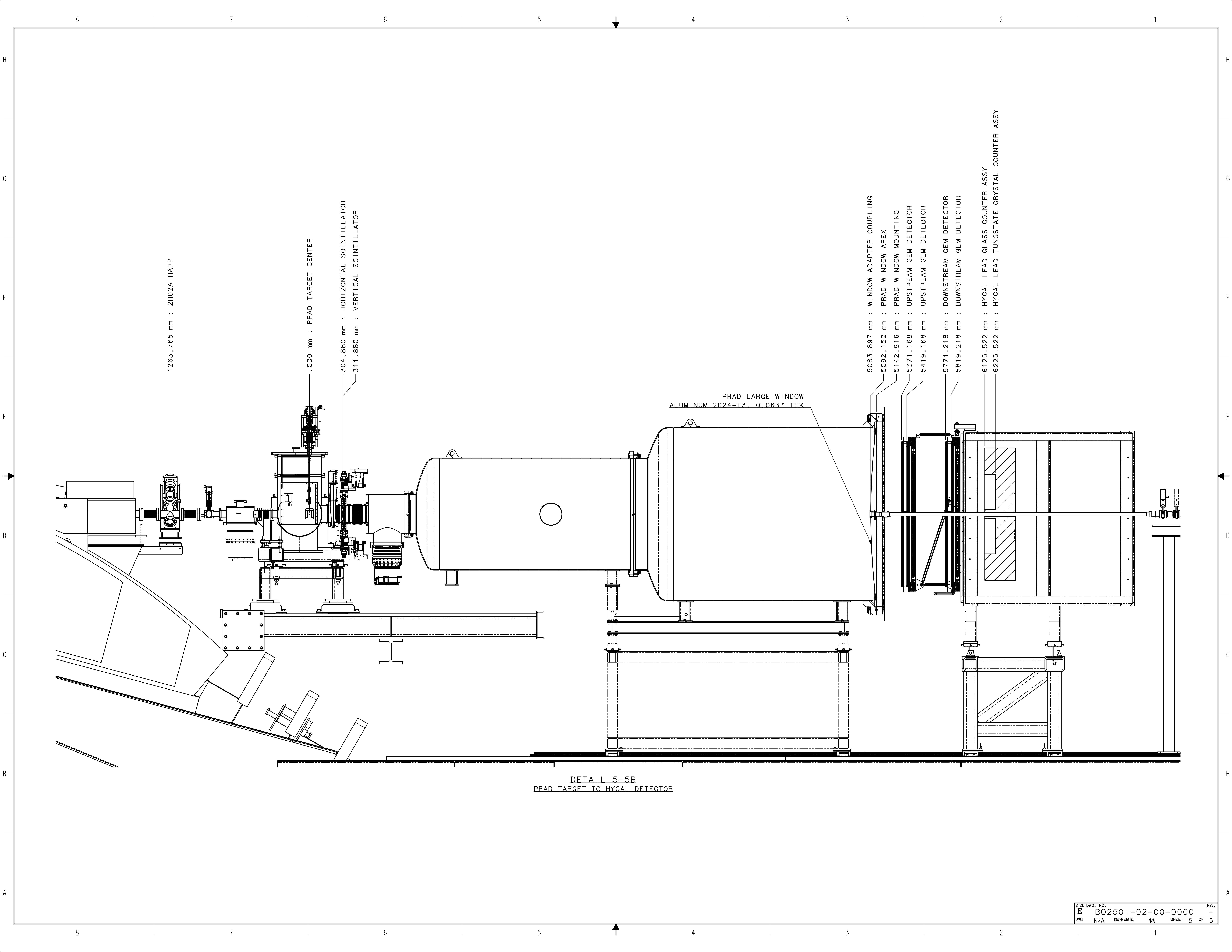
BEAM TUBE:
8*CF, 5*SCH.40, 195.0*LG
66210-02148

BELLOW, FORMED
275*CF, 3.50*LG

SHIELD WALL:
DOWSTREAM
ALCOVE

ELEVATION 3-5A
HALL CENTER TO DOWSTREAM ALCOVE





DETAIL 5-5B
PRAD TARGET TO HYCAL DETECTOR