

# SANE: Beam Line Status

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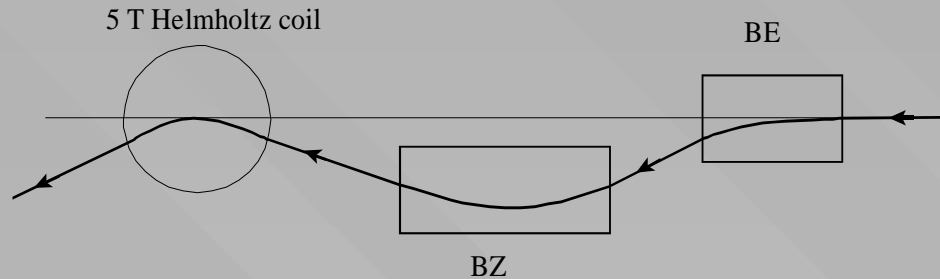
- Upstream beam line
  - Chicane
  - SEM
  - Rasters
  - Radiator
- Downstream beam line
  - Helium bag
  - Extension piece



13/30/07



# Upstream Beam Line: Chicane



- BE dipole magnet
  - Maximum current: 300 A
  - Effective Length:  $\sim 1$  m
  - Gap: 2.54 cm
- BZ
  - Maximum current: 500 A
  - Effective Length:  $\sim 2$  m
  - Gap: 3.81 cm

## Power Supplies:

● 40V/320A PS

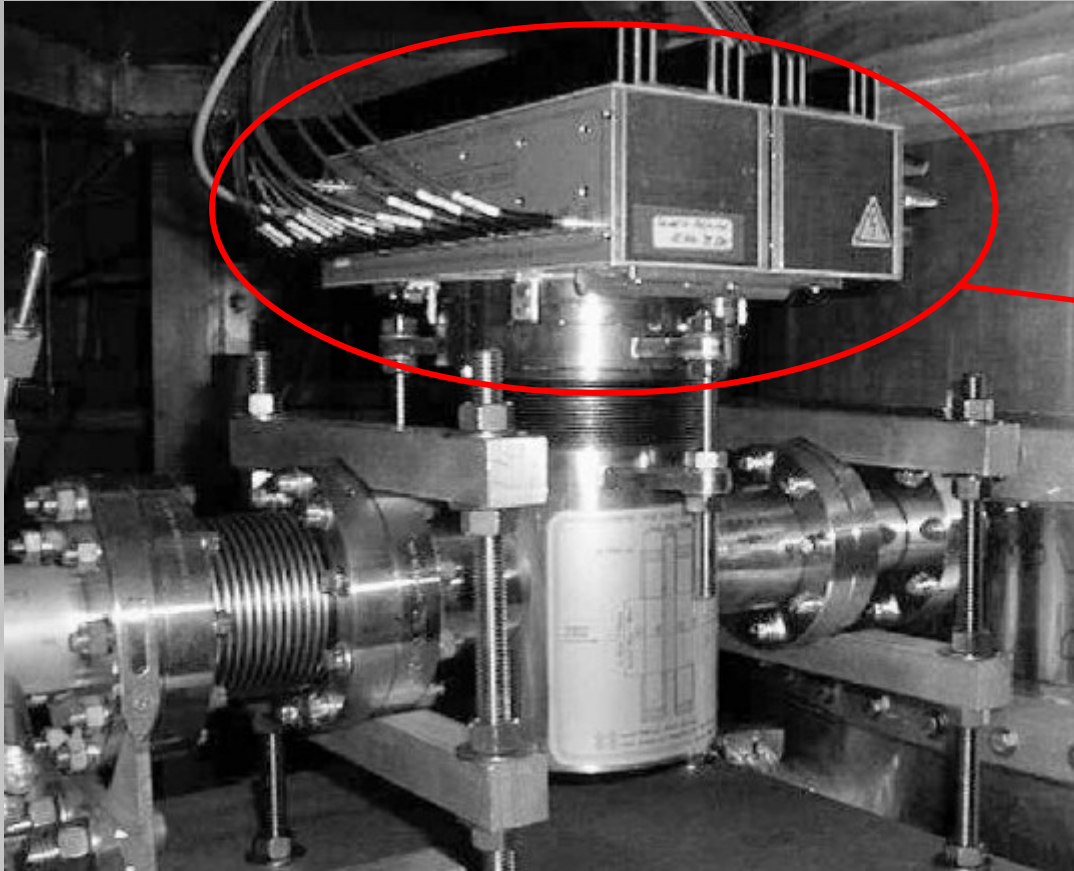
● 40V/500A PS



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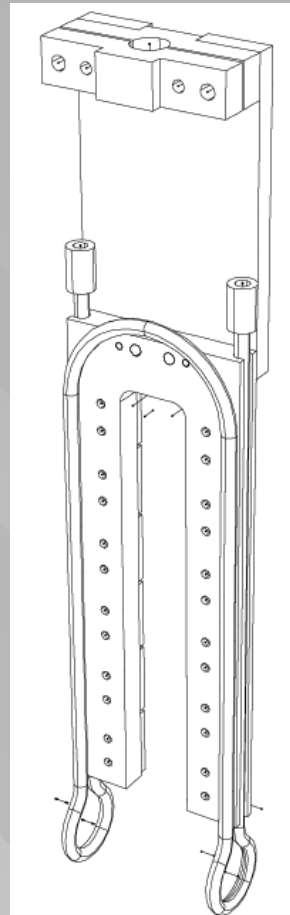
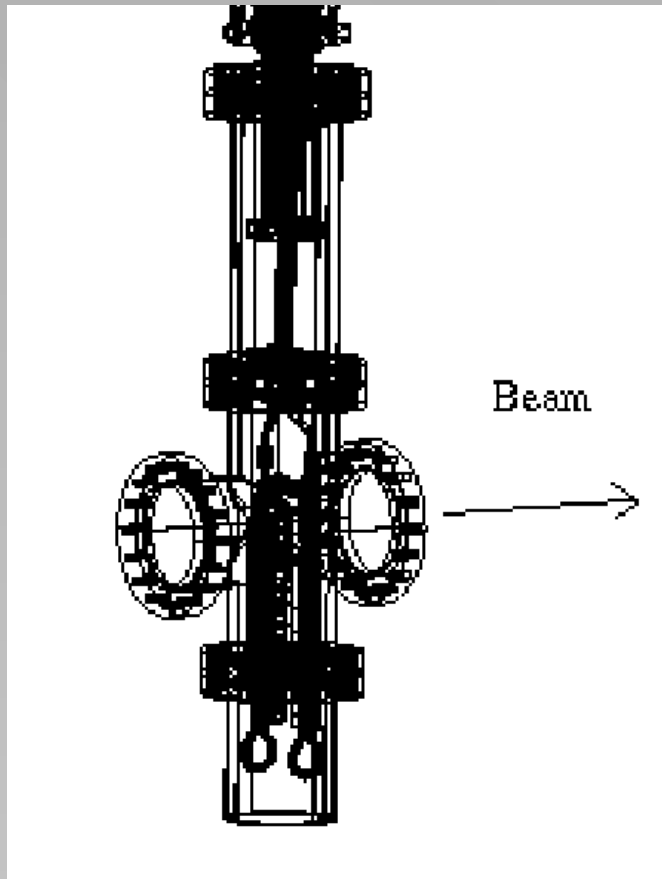


# SEM



Electronics moved  
away from beam line

# Radiator

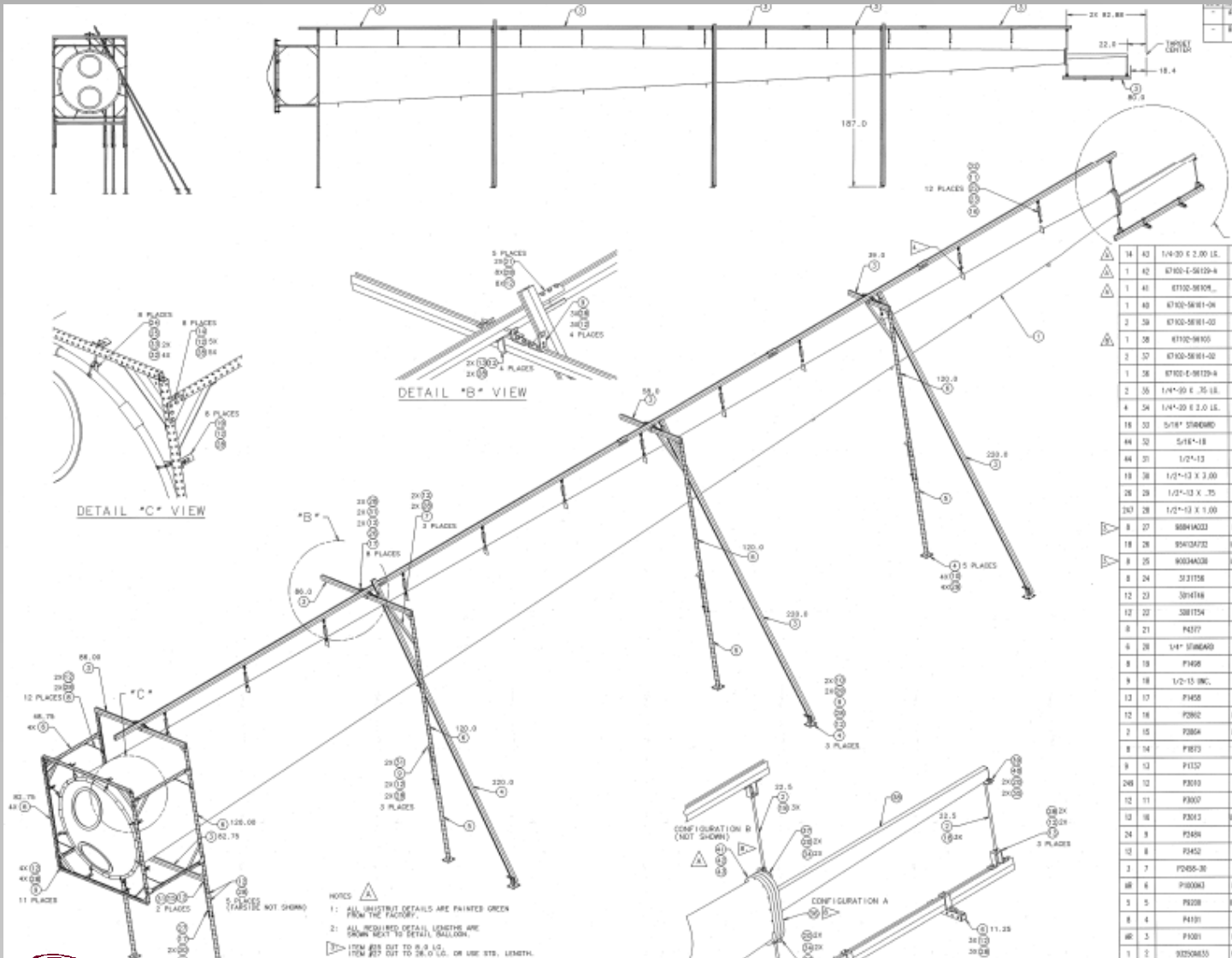


Starting with original Hall C radiator design.

- Do not need water cooling
- Probably only need two foils with different thickness



# Downstream Beam Line: Helium Bag



Modifications:

- Need new He bag.
- Adjust support locations
- Enlarge extension piece.

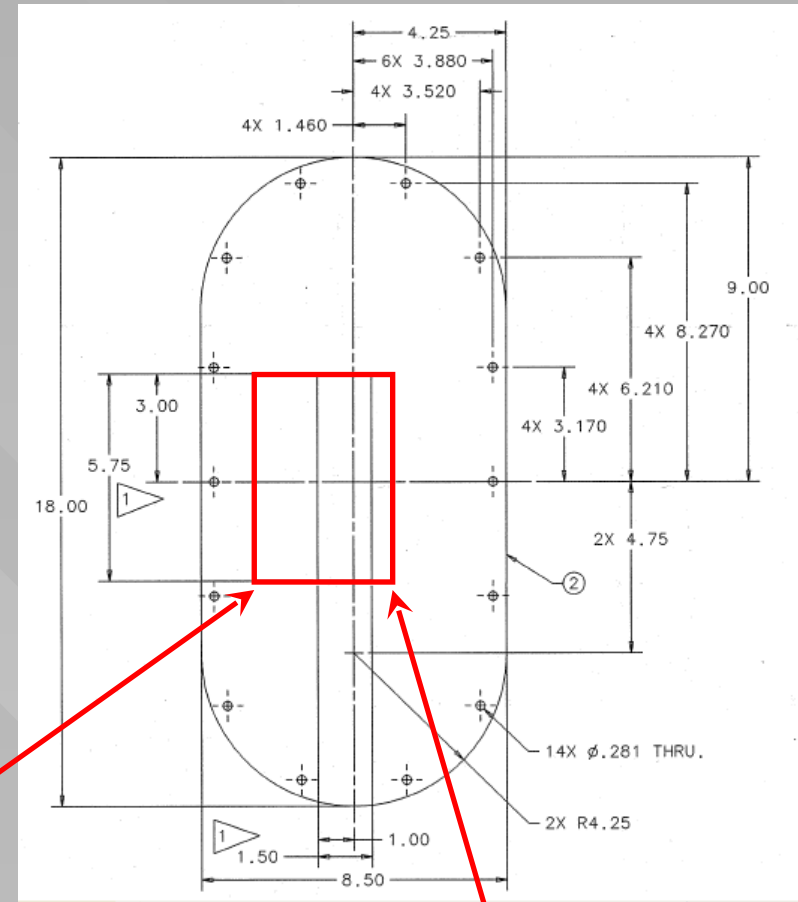
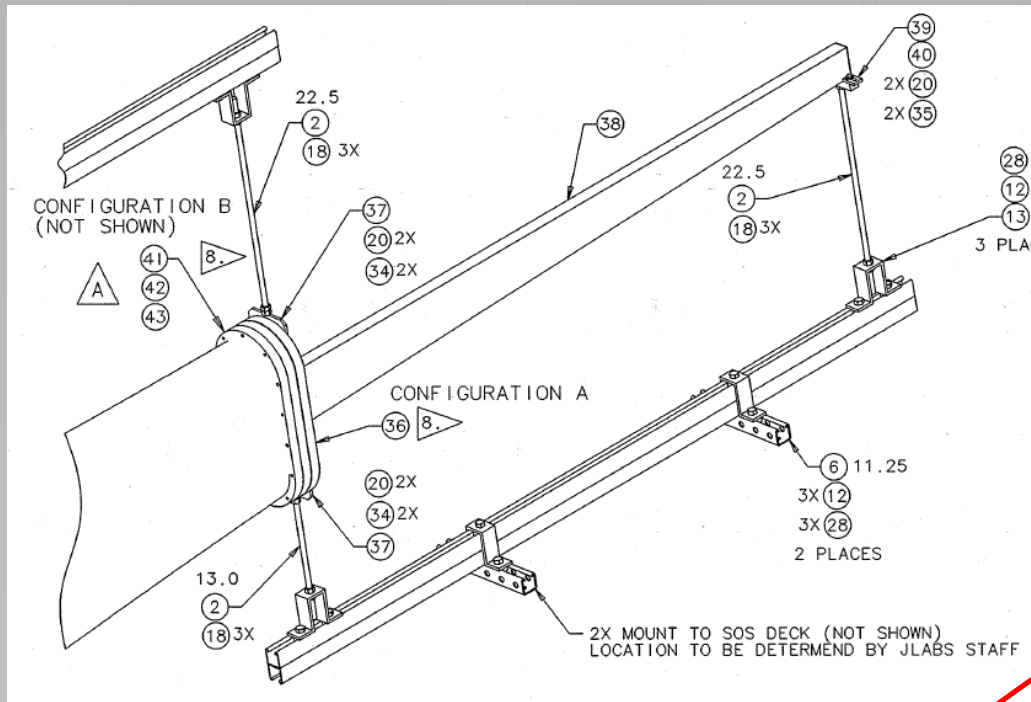


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# Downstream Beam Line: Extension Piece

Modify extension piece:



Free to make large

Affects HMS  
minimum angle

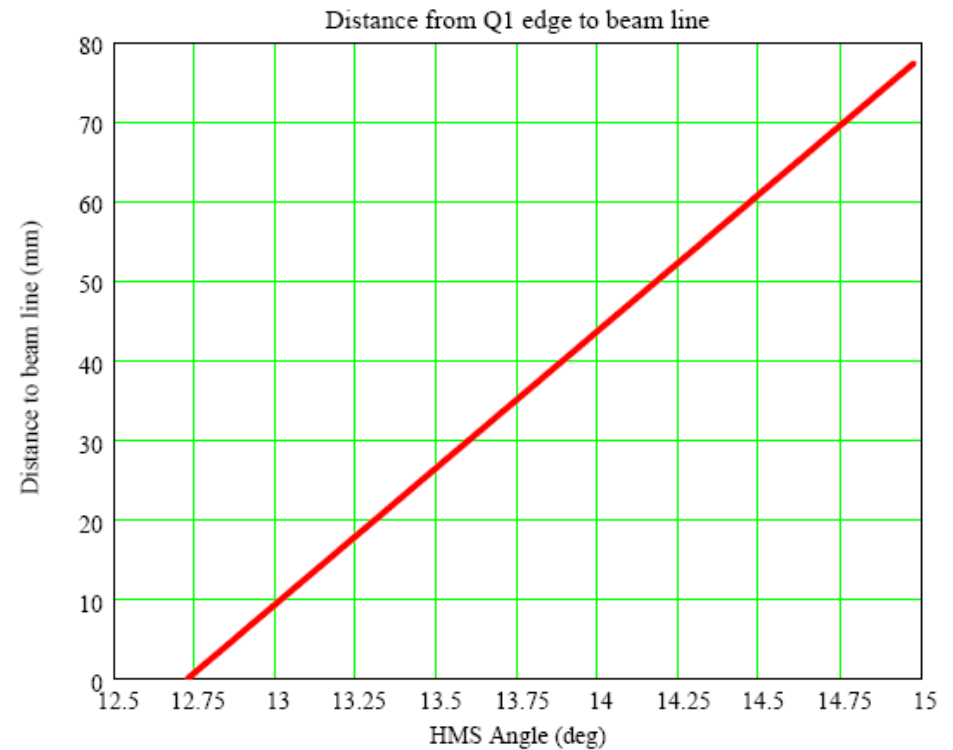
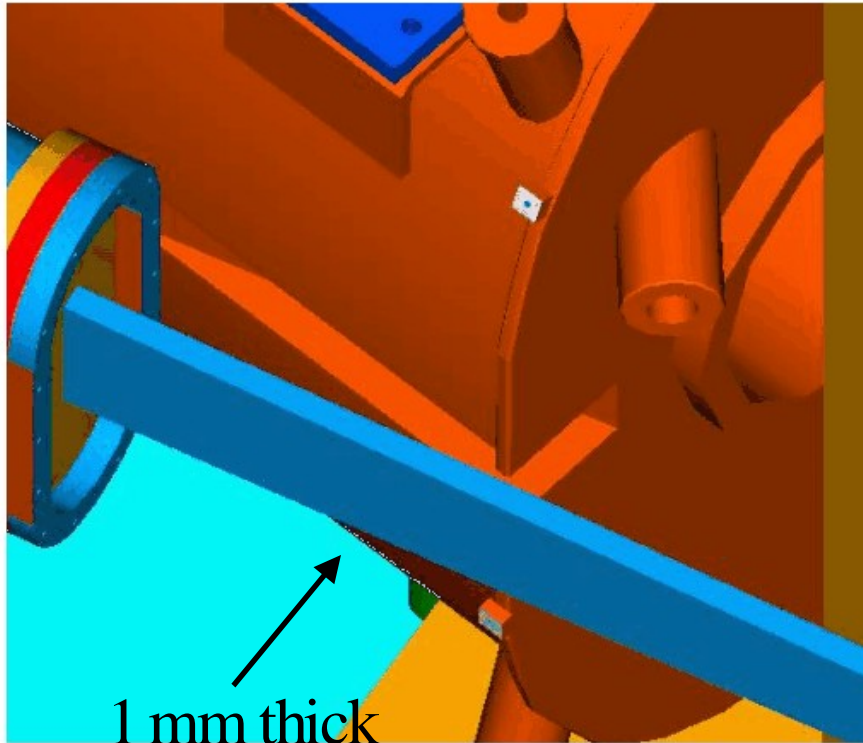


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# Extension Piece: HMS

min



Effective radius of beam envelope at Q1 edge: 14 mm

min	Beam Clearance
13.5°	~ 11 mm
14.0°	~ 29 mm



# Summary

- Upstream beam line
  - Chicane – good shape
  - SEM – good shape
  - Rasters – check w/ Chen about slow raster
  - Radiator – needs more work
- Downstream beam line
  - Helium bag – need new bag – checking with B. Vulcan about vendor
    - Want to purchase this fiscal year.
  - Extension piece - simulations needed to determine size.

