• Geometrical requirements:
  – Fit into tunnel

• So far considered functional requirements:
  – matching of injector to bc1 beam with linac 1
  – diagnostic sections after bc1 and b2 (recently redesigned by Christopher – not yet included in master-deck)
  – beam dump lines after each bunch compressor diagnostics

  – Note: Beam Dumps are not (and will not be) designed for nominal beam power
Bunch Compressor Beam Line Optics

Drift through shielding

Dogleg ($R_56 \approx -0.015 \text{ m}$)

18 deg deflection to commissioning dump
Technical Specifications

- magnet bore radius (half aperture): 20 mm
- energy reach for magnet system BC1: 800 MeV
- energy reach for magnet system BC2: 3 GeV
To Do

- Include BC Diagnostic Sections in Master Deck
- Increase BC chicane middle dipoles distance to include diagnostics
- Calculate transverse wakefield effects of 3rd harmonic cavities
- Adjust phase advance between BC1 and BC2 to n*π
- Magnet tolerance studies (field quality and alignment of dipoles)