

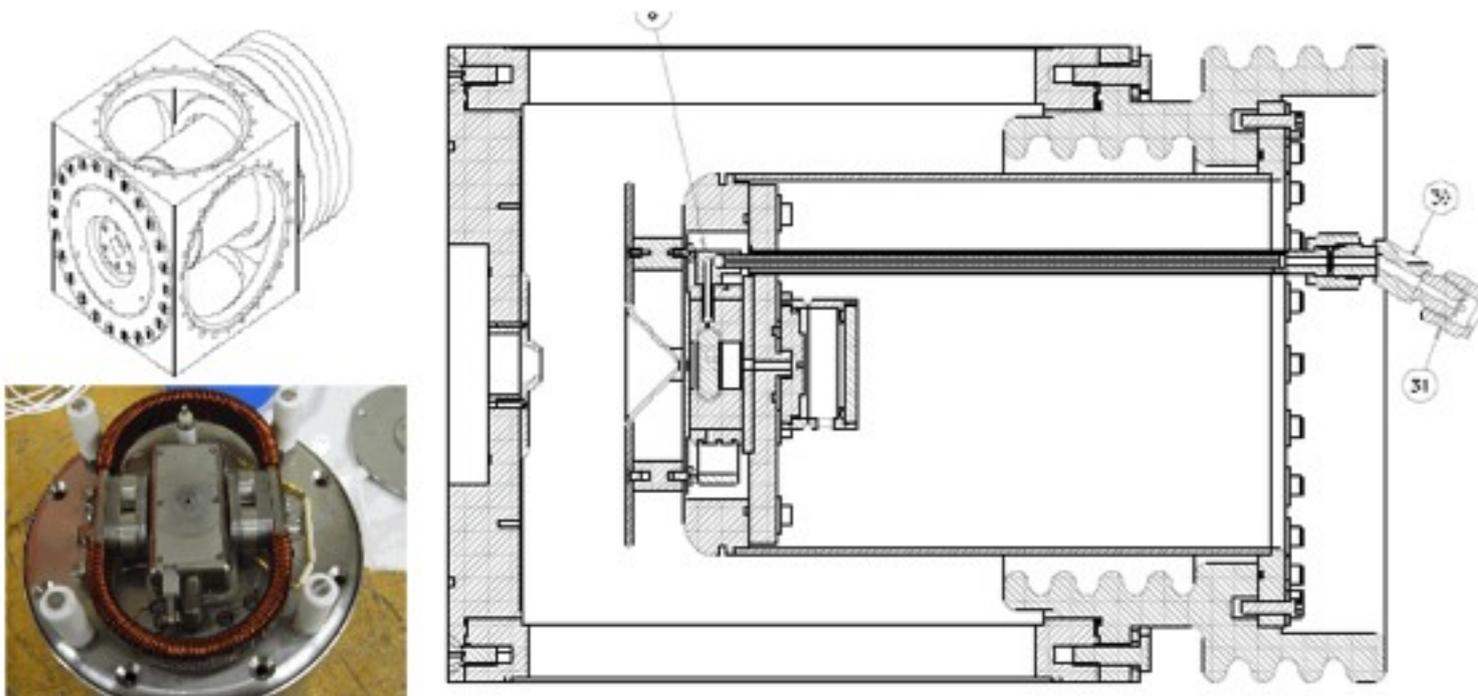
Pre-injector Upgrade Updates (16 Mar 2011 – 30 Mar 2011)

C.Y. Tan
30 Mar 2011

Reminders

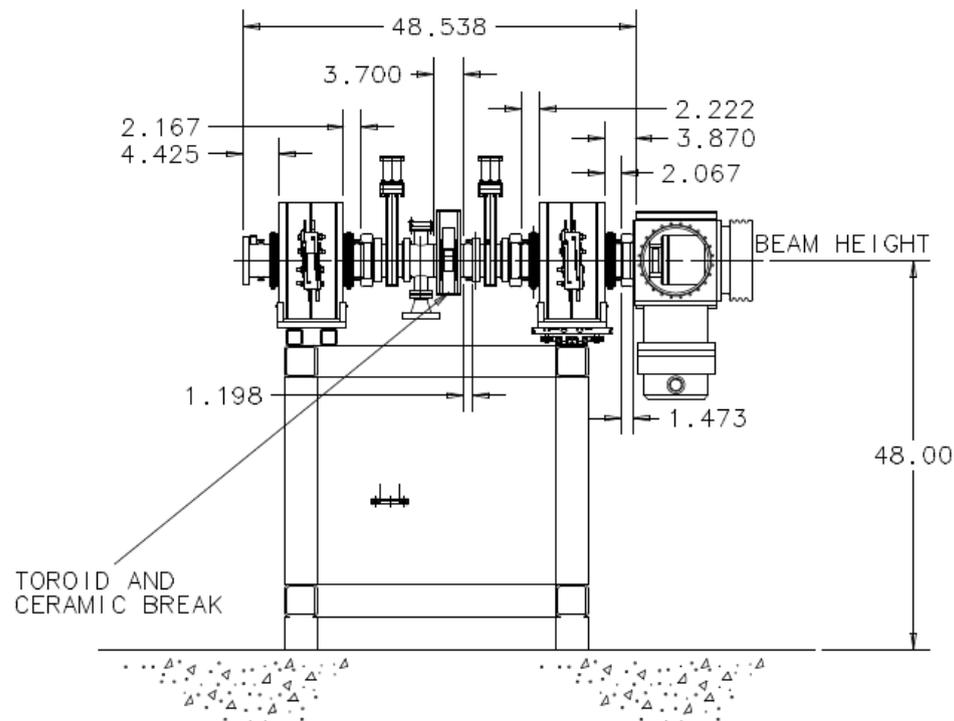
- Fill in the MS Project time lines.
- Fill in paper sections for the review.

Source Status



Device	Status	Comments
Source	Drawings completed.	Machine shop has drawings. Manufacturing has started.
Water	I- water tapped off (07 Mar 2010)	See next talk

LEBT Status



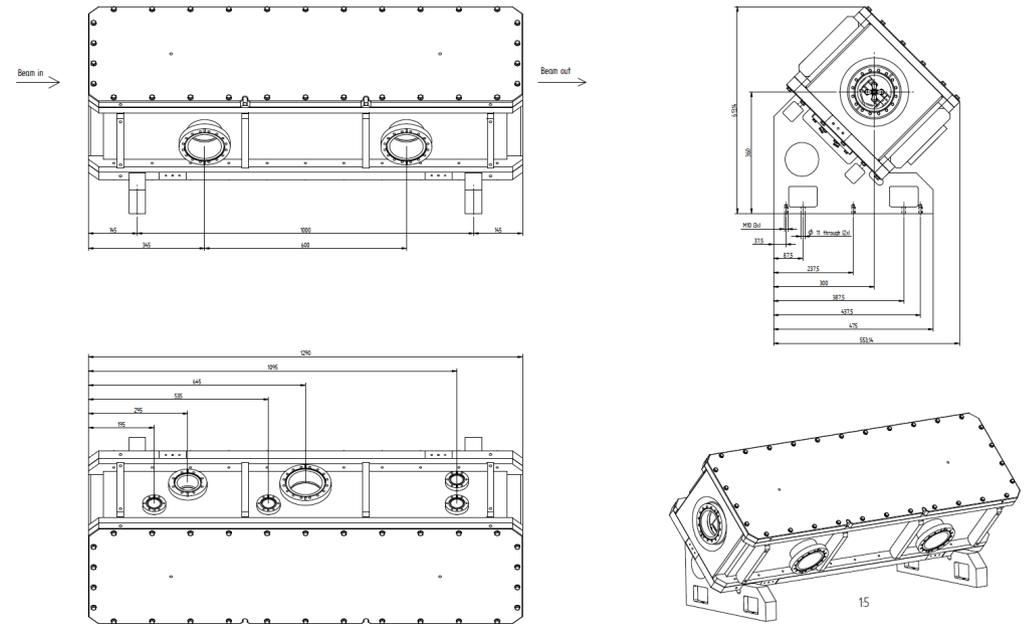
Device	Status	Comments
Einzel lens	Drawings complete.	All parts except bellows are here.
Einzel lens pulser	New ideas	Behlke switches in purchasing. See Jim's talk.
Solenoids	Still being built	1 st solenoid done. Some problems. See next slide.
LEBT drawings	Being drawn	Position of correctors etc.
Correctors	final design (07 Mar 2011)	Milhouse still working on drawings.

Solenoid status

- #1 and #2 are good
 - #1 potted and being measured. Preliminary measurements show that field is higher than expected. Temperature rise only a few deg C at 600A. Results will be given to me soon.
 - #2 not potted yet but good.
- #3 winding is bad
 - New technique of adding insulation at the transitions to be tried out.
- #4 waiting.

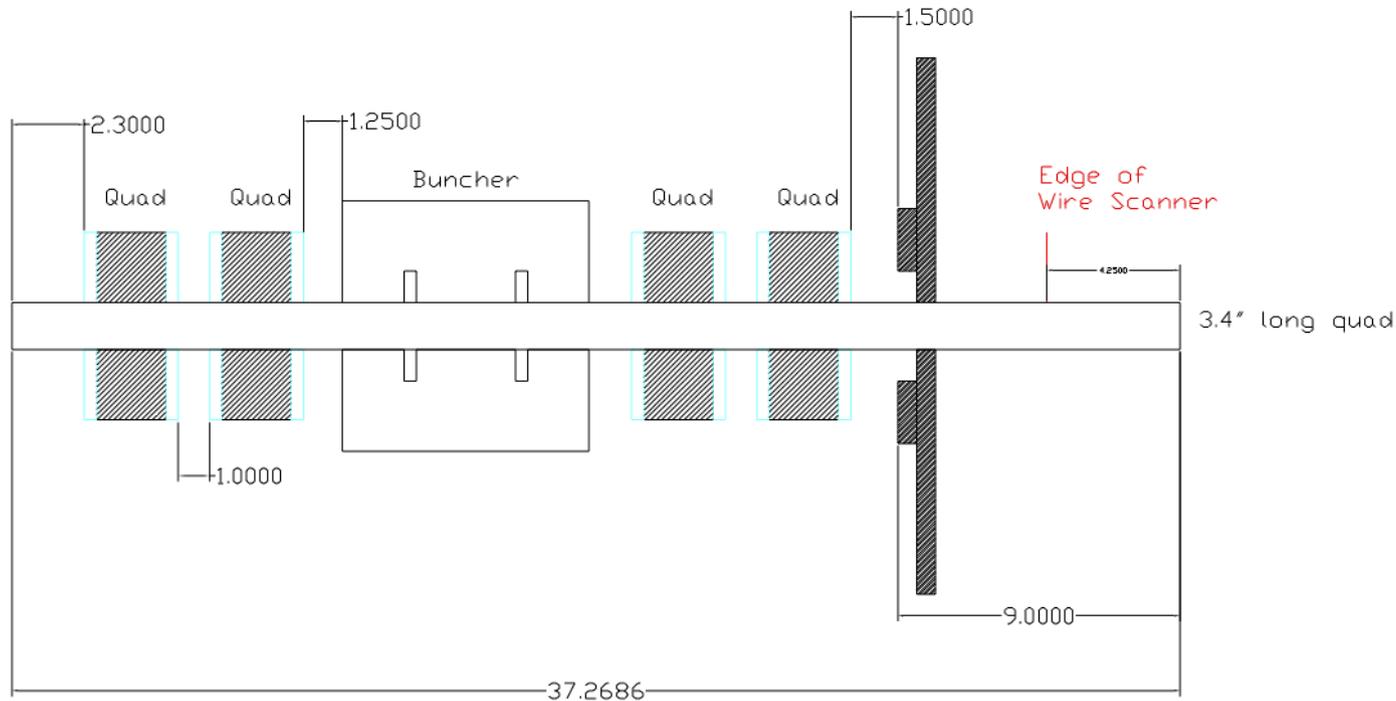
RFQ Status

No news



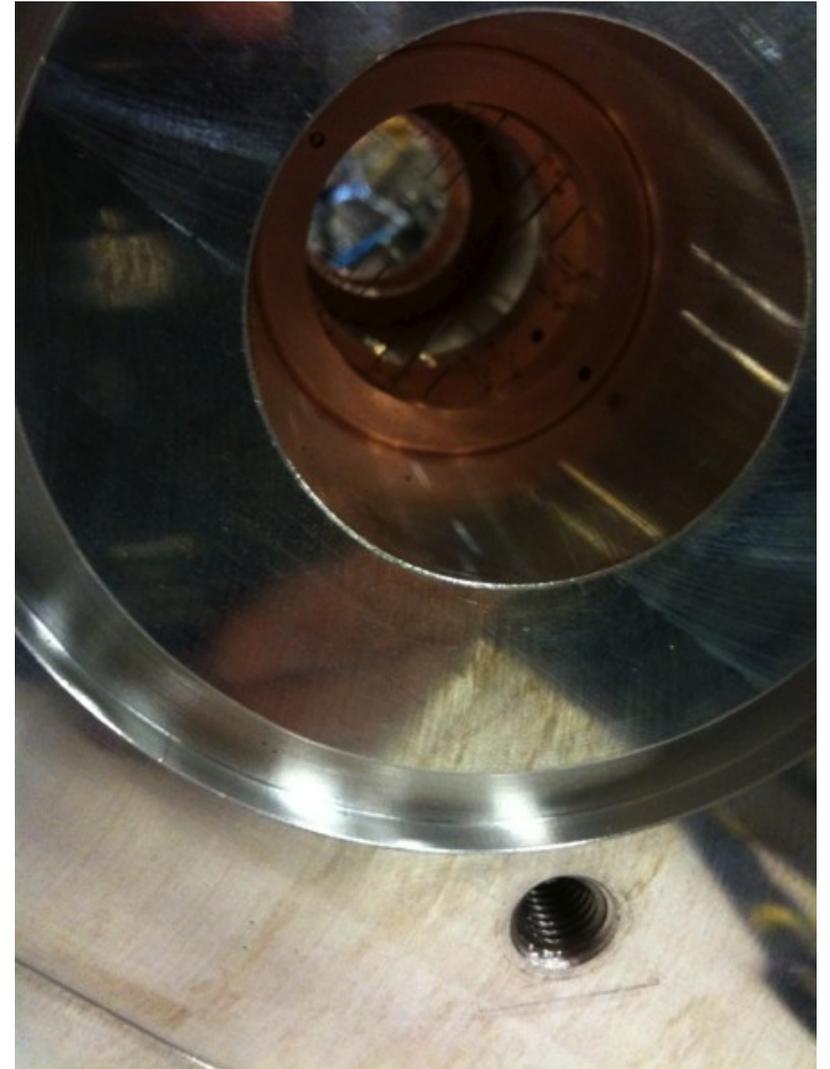
Device	Status	Comments
4816 PA	spigots added to I- line. power outlets done	done as of 1 st week of march

MEBT Status

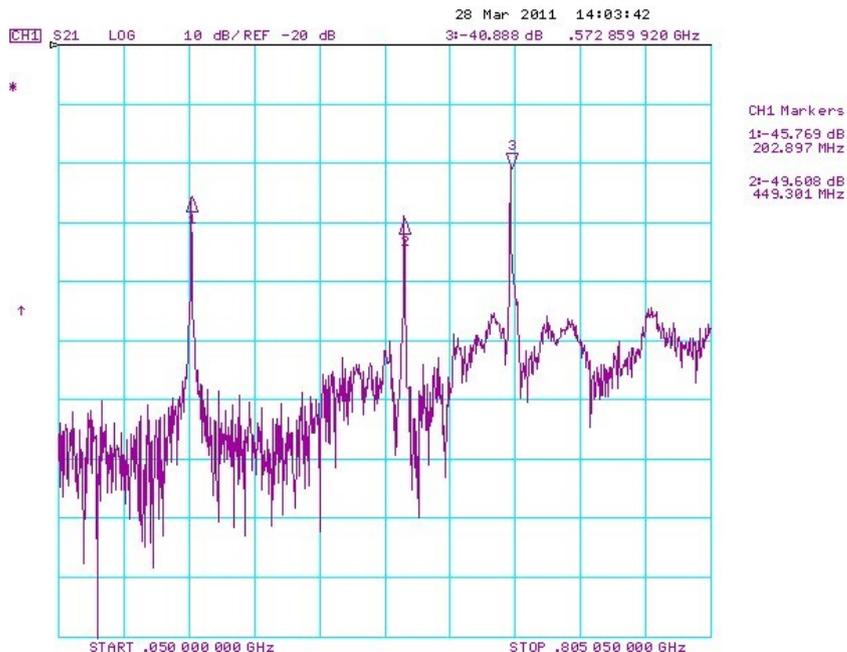
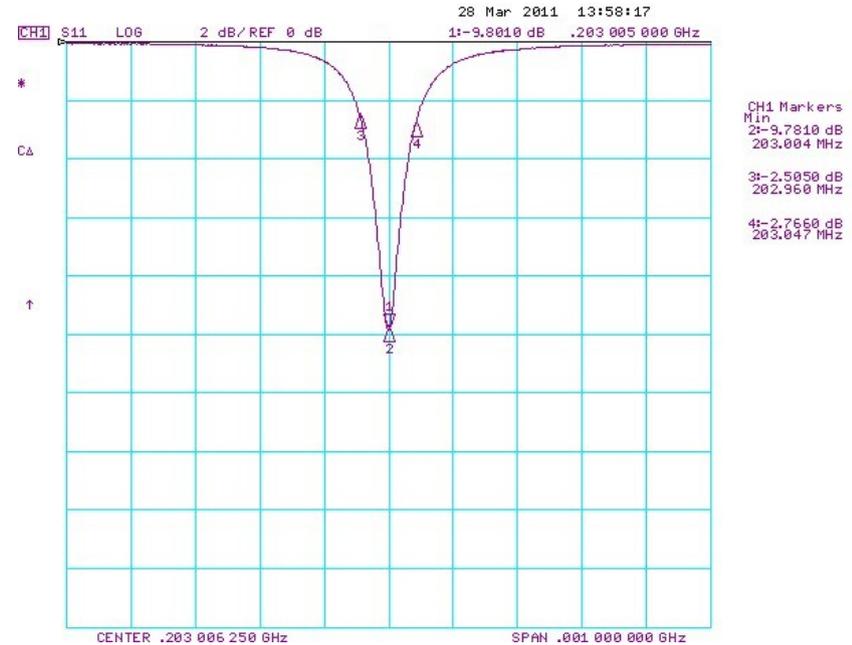
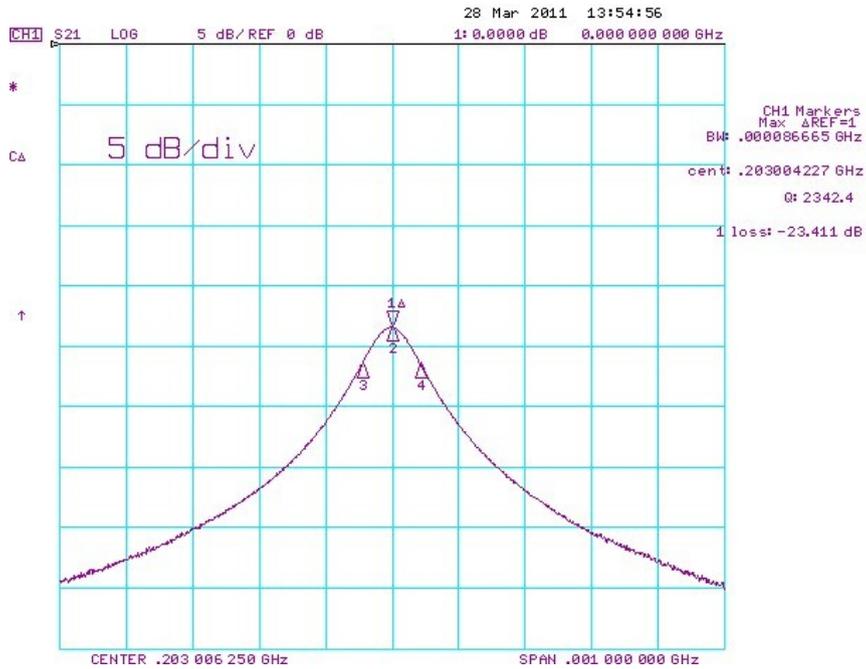


Device	Status	Comments
Quads	3D drawings will be completed soon.	Complete at end of week. Distribution next week.
Buncher	vacuum test complete at sensitivity of 1e-9 mbar-L/s	Bead pull station being set up. No grids in buncher, resonance at about 203MHz, Q~2000 (c.f. 3500)
Power for quads	Specs to follow	Quads being redone.
Power for buncher		Use present buncher supply in the line.

Grids are different from BNL



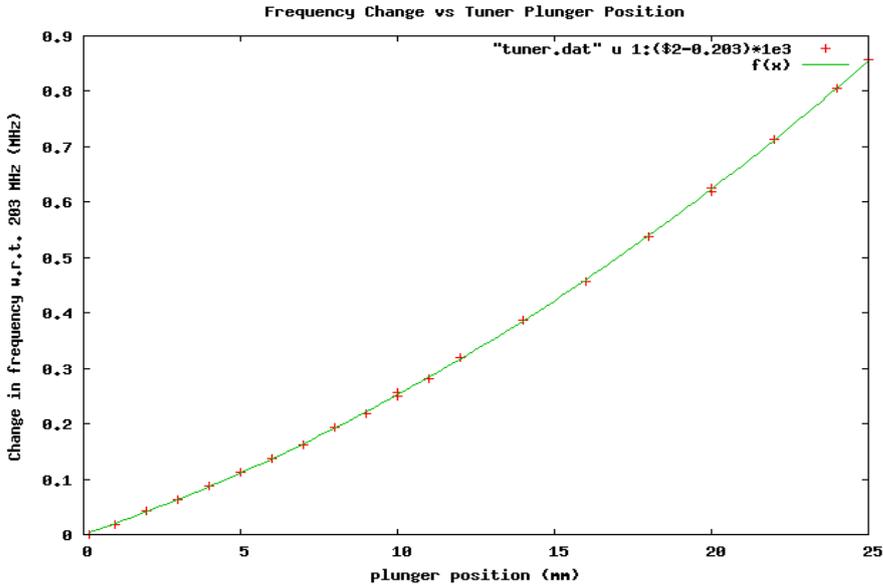
Preliminary Measurements (No grids)



Resonant frequency = 203MHz
 Q=2300
 S11=-10dB

c.f. Measured in Japan
 Q = 3500
 S11 = -43dB at resonance
 Resonant freq = 201.25 MHz

Comparing Tuner Plunger Data

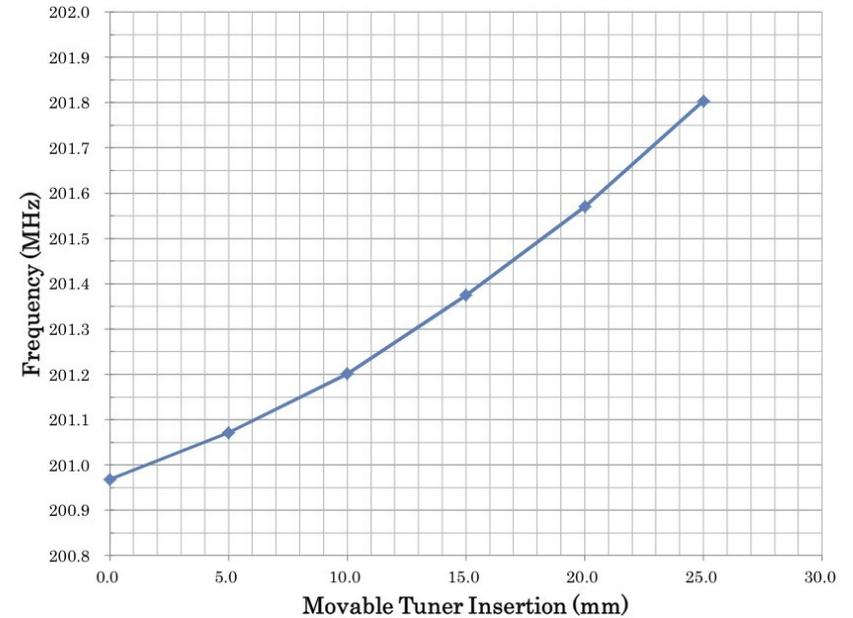


Our measurement at 203 MHz

FNAL Buncher with Grids
Feb. 25, 2011

Tuner (mm)	F (MHz)	Loaded Q
0.0	200.968	3560
5.0	201.072	3540
10.0	201.201	3520
15.0	201.375	3500
20.0	201.570	3480
25.0	201.803	3460

Japanese
measuremnt



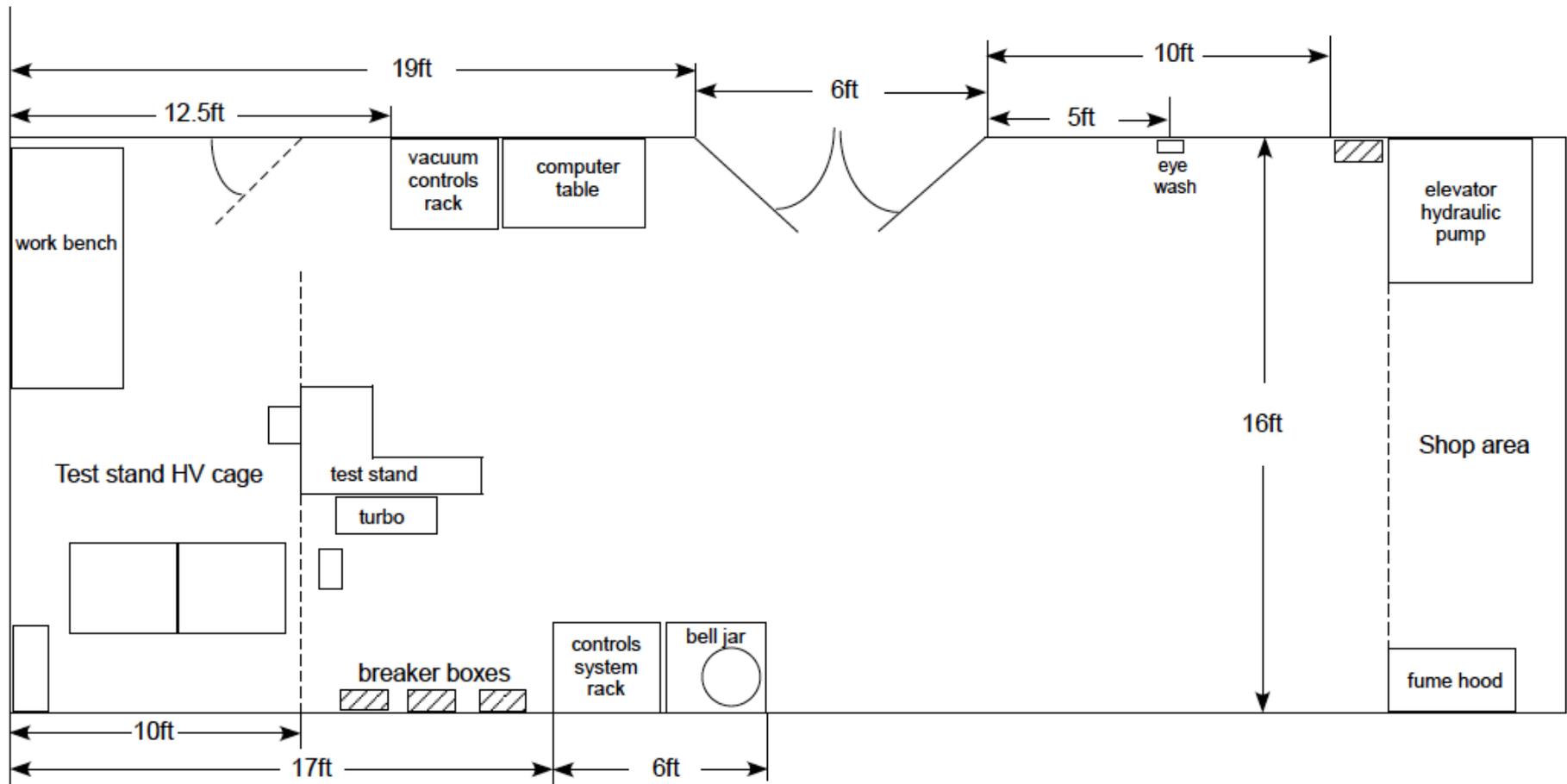
Controls

- Controls meeting (23 Mar 2011)
 - See Elmie's summary
 - Worry about whether the room is too cramped
 - Do we want to temporarily tear out the source test stand?

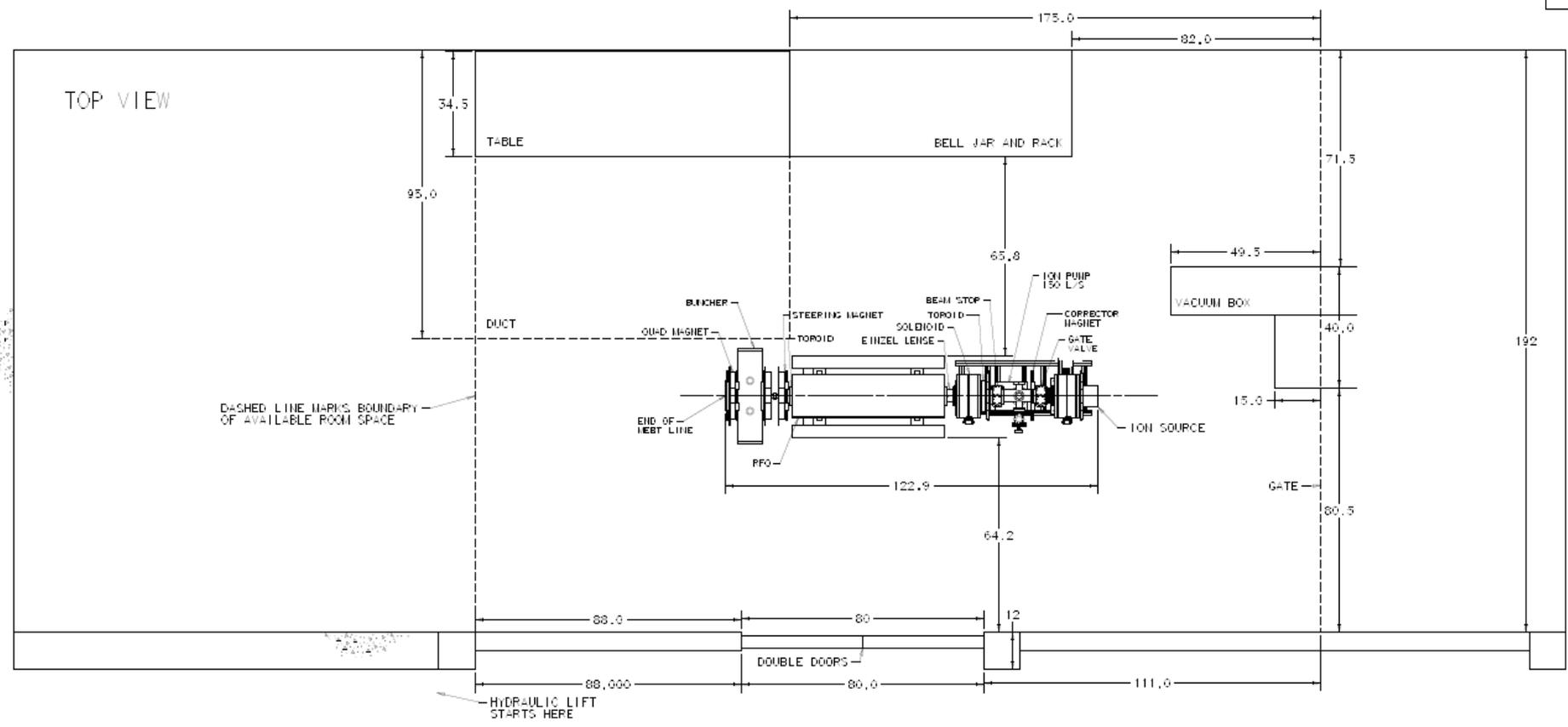
Test Stand

- Room has been cleaned up.
 - Beam line layout in progress
 - Water – Bob Slazyk
 - Electrical – Jim Ranson
- Need to test LEBT before RFQ connection
 - Wires, toroids at the end of the LEBT, same position as the RFQ.
- Design diagnostic line.
- Drawings from Schempp are sufficient to build table.

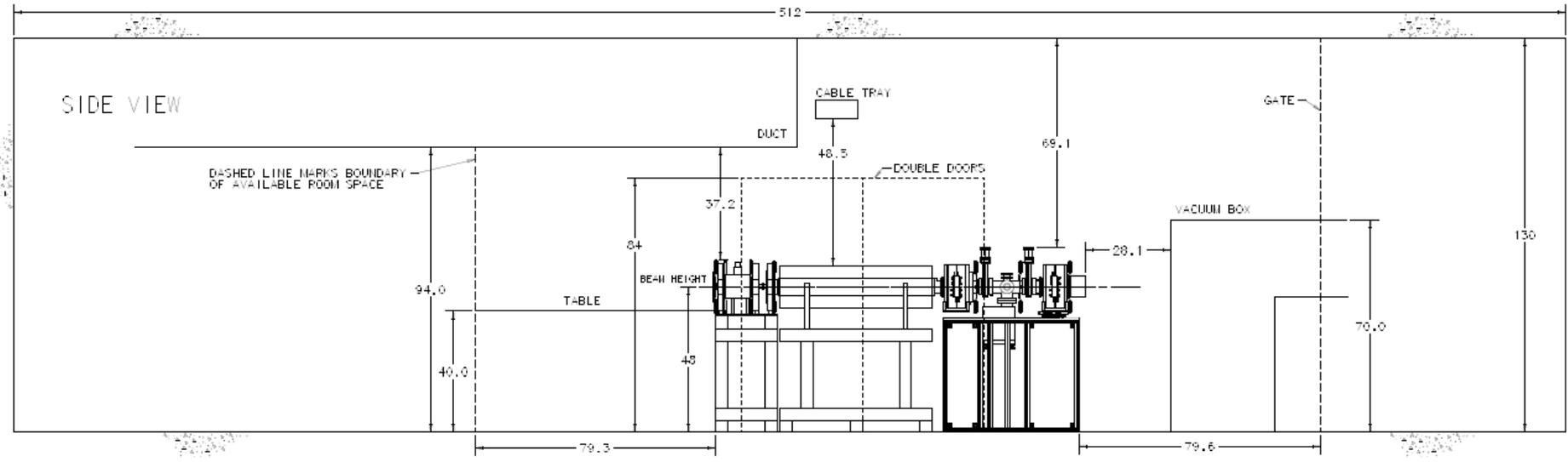
Test Area



TOP VIEW



SIDE VIEW



Safety

- When can the beam line layout in test area be done?

RFQ reminders

- Schempp is vendor
 - Make sure that the vanes are cleaned! See ISIS email.
 - Some cleaning details supplied by ISIS.
 - Review and verify on site mechanical design and construction (already in contract).