

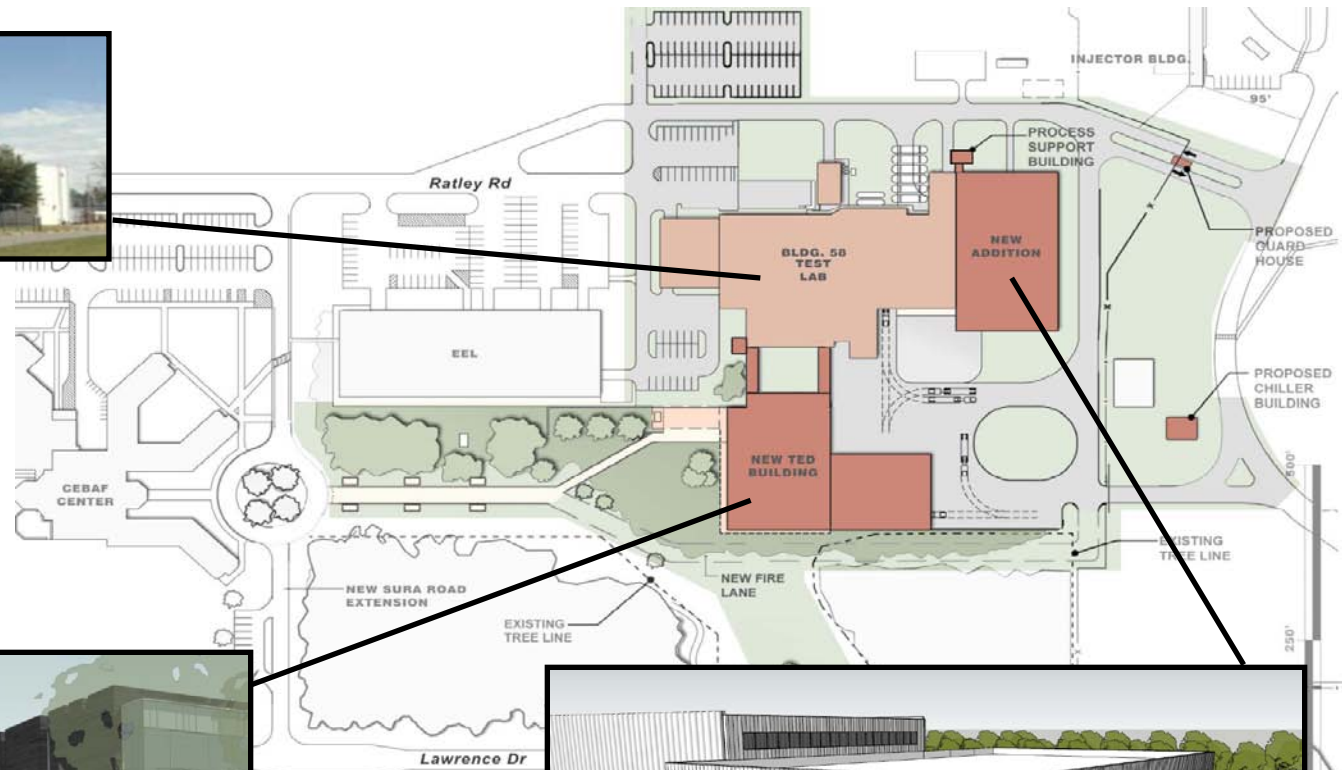
# **Jefferson Lab Technology and Engineering Development Facility Project (TEDF)**

C. Reece

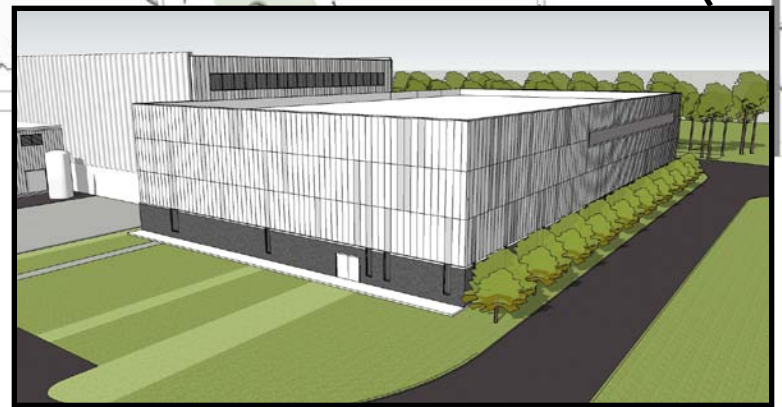
# TEDF Project



**Test Lab  
Renovation**



**TED Building**



**Test Lab Addition**

# TEDF Project

- **US Department of Energy –  
“Science Laboratory Infrastructure” Project** (~72M\$)
- Investment in facilities for:
  - Improved energy efficiency
  - Improved life-safety code compliance
  - Improved work-flow efficiency
  - Improved facility sustainability
  - Improved human work environment
  - Improved technical quality of facilities for future work
  - Increased build-out capacity
- Will provide new home for JLab organizations:
  - SRF Institute
  - Engineering division
  - Physics detector groups







# TEDF

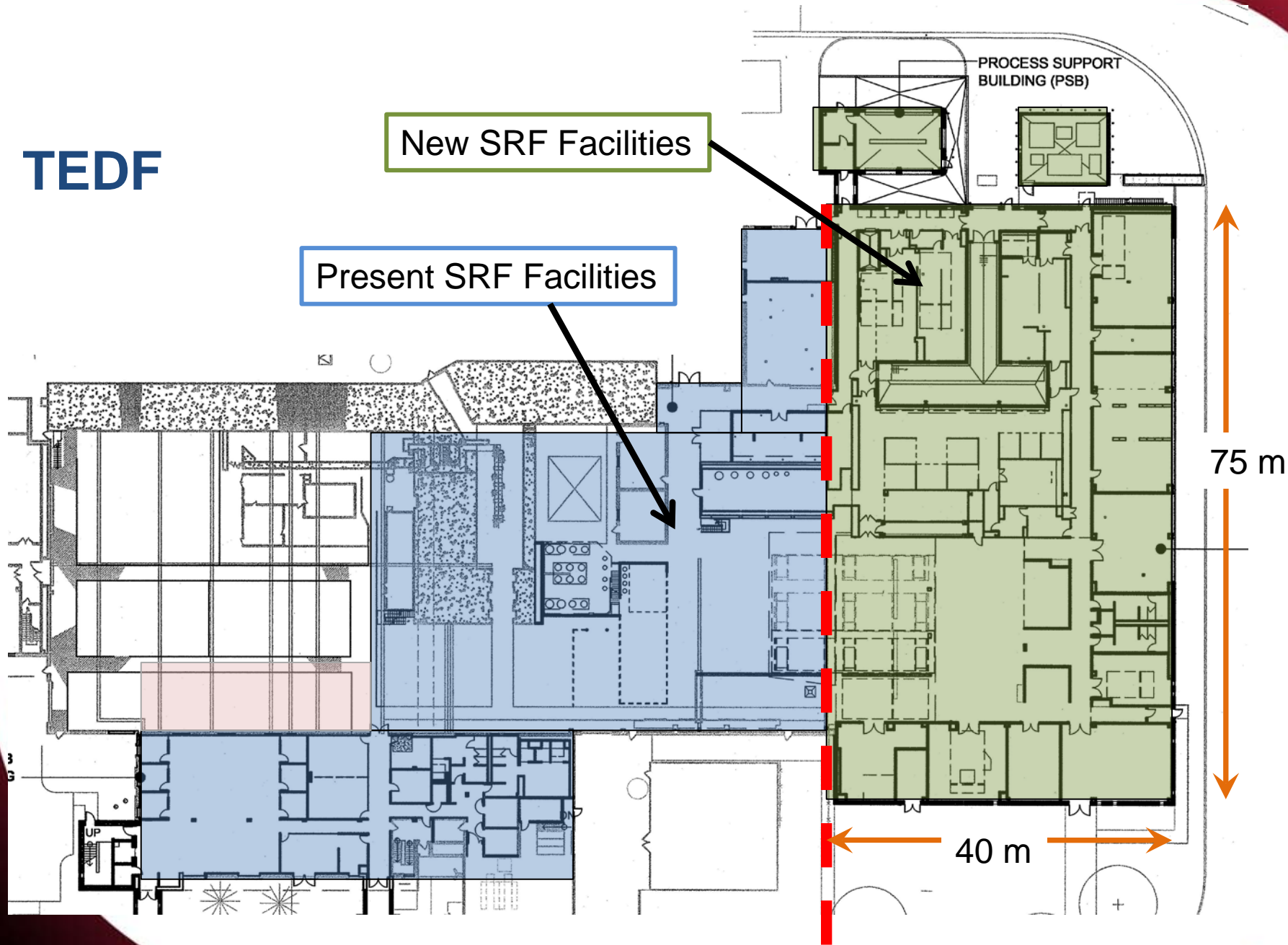
New SRF Facilities

Present SRF Facilities

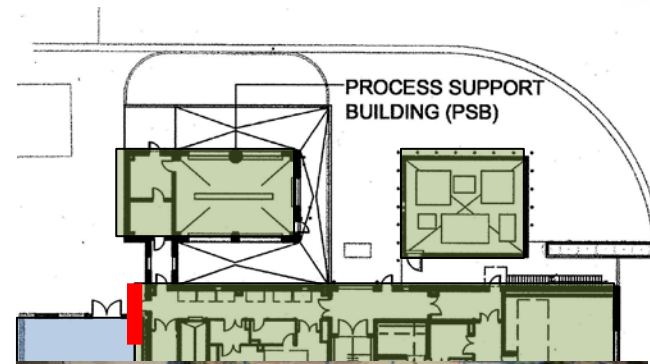
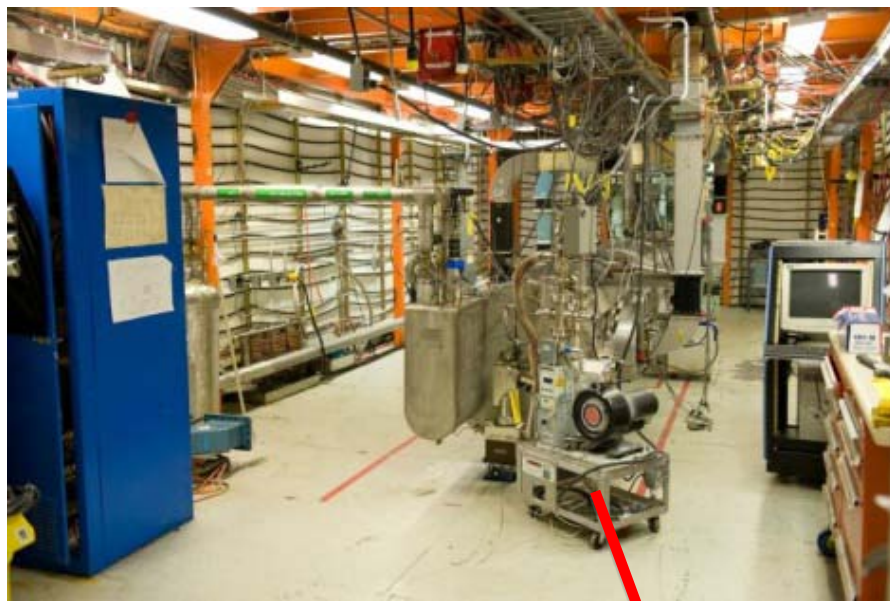
PROCESS SUPPORT  
BUILDING (PSB)

75 m

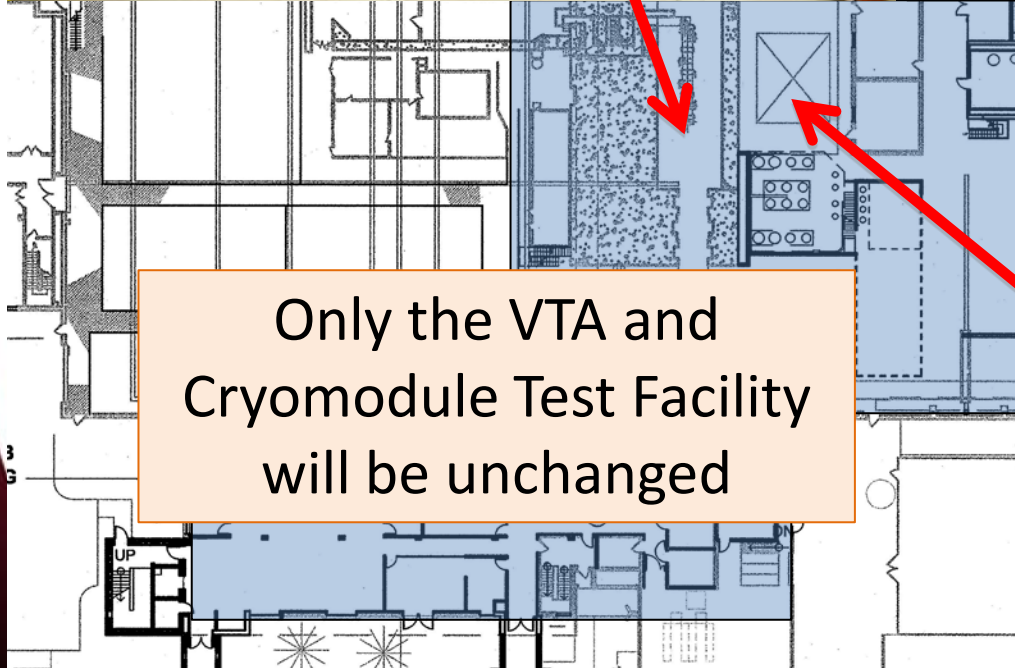
40 m







75 m



Only the VTA and Cryomodule Test Facility will be unchanged

>3300 tests and counting

# SRF Facilities in TEDF Project

Advanced Conceptual Design 4/1/09

Chemistry, cavity treatments, and support areas

Cavity and cryomodule cryo/RF testing

Cleanroom

R&D

Cryomodule assembly

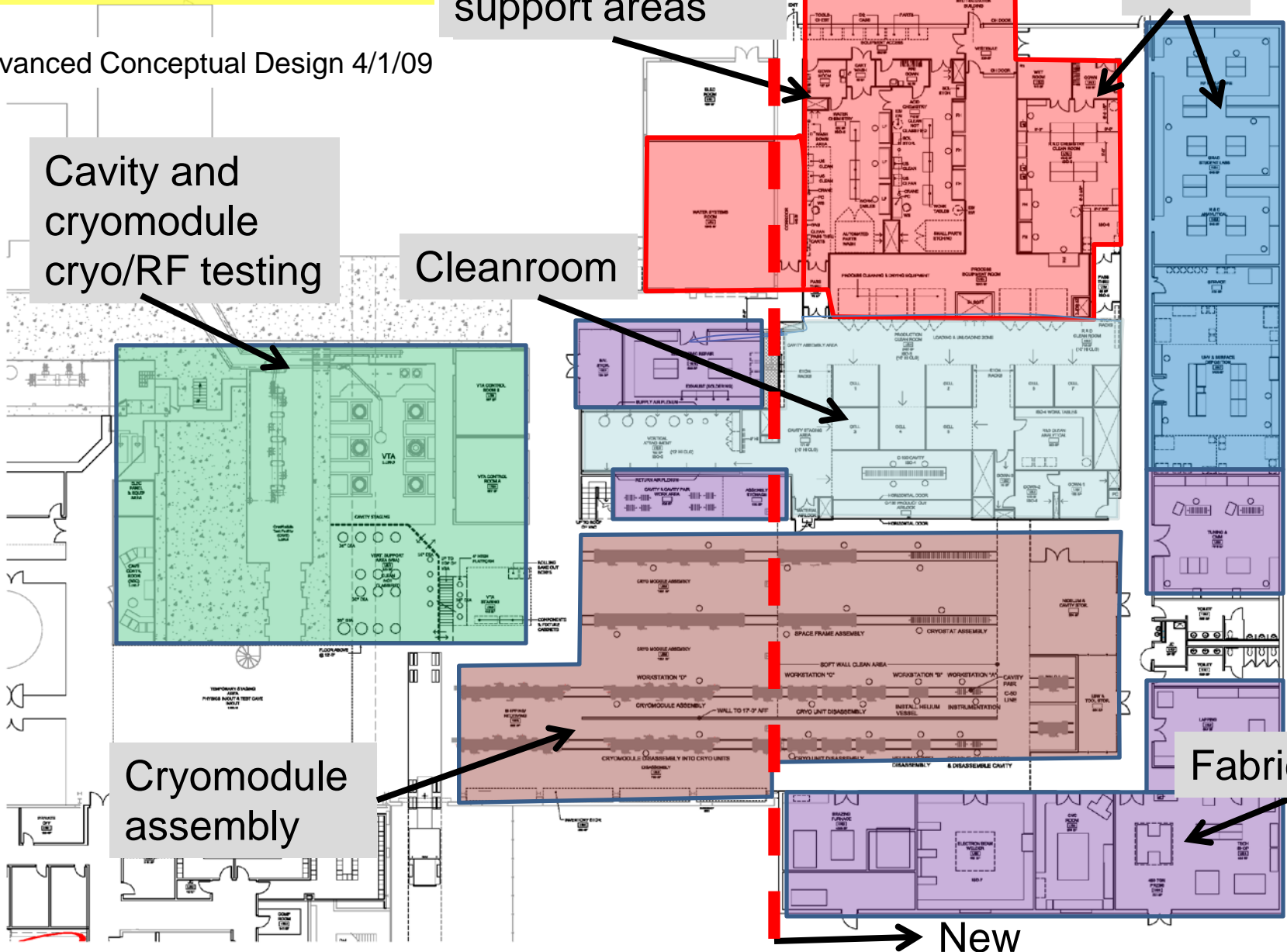
Fabrication

New

Jefferson Lab  
Scale: 1/8" = 1'-0"  
03.26.09

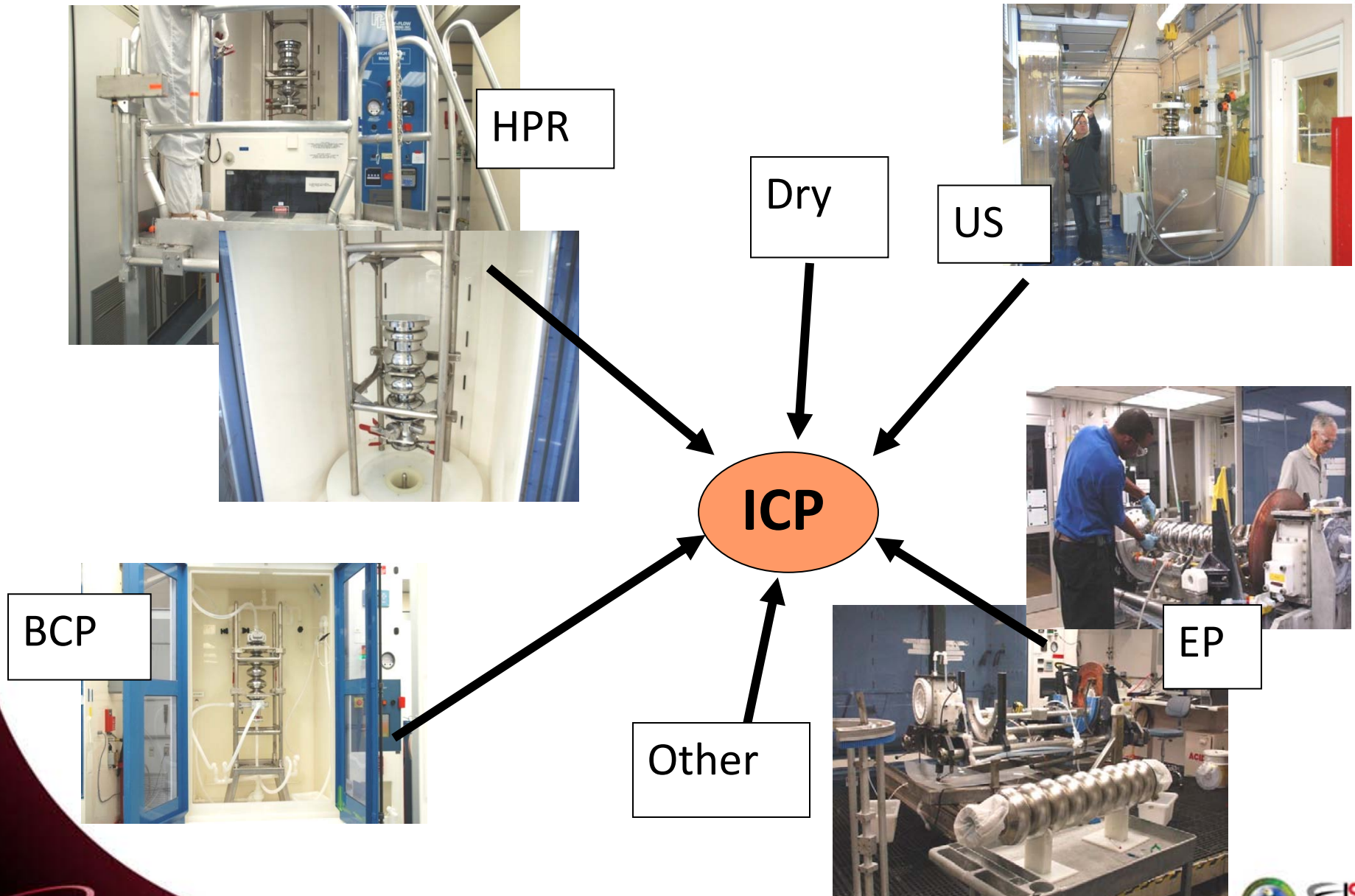
Renovation and Addition - First Floor

Build





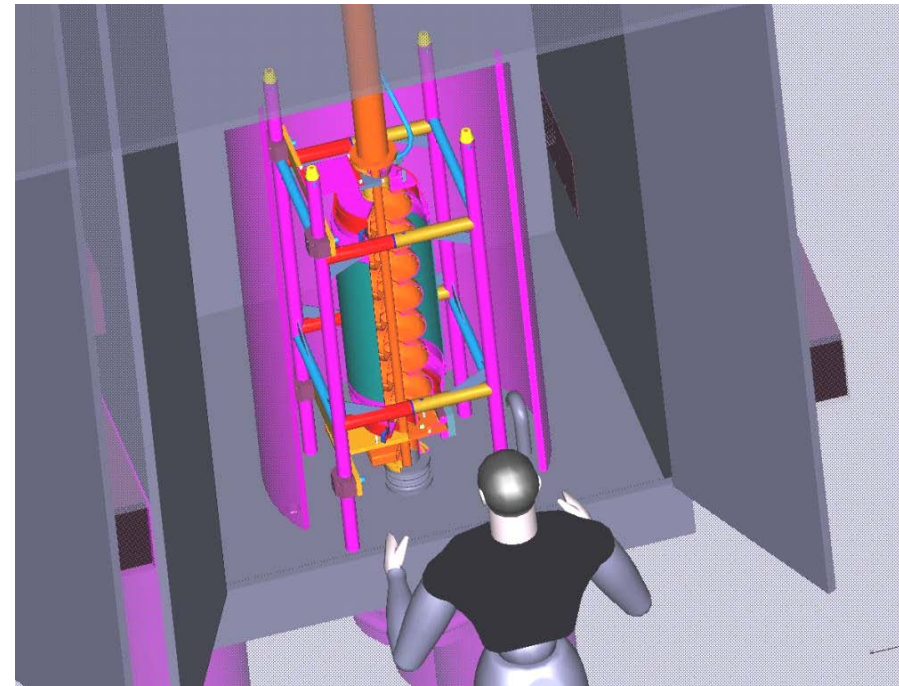
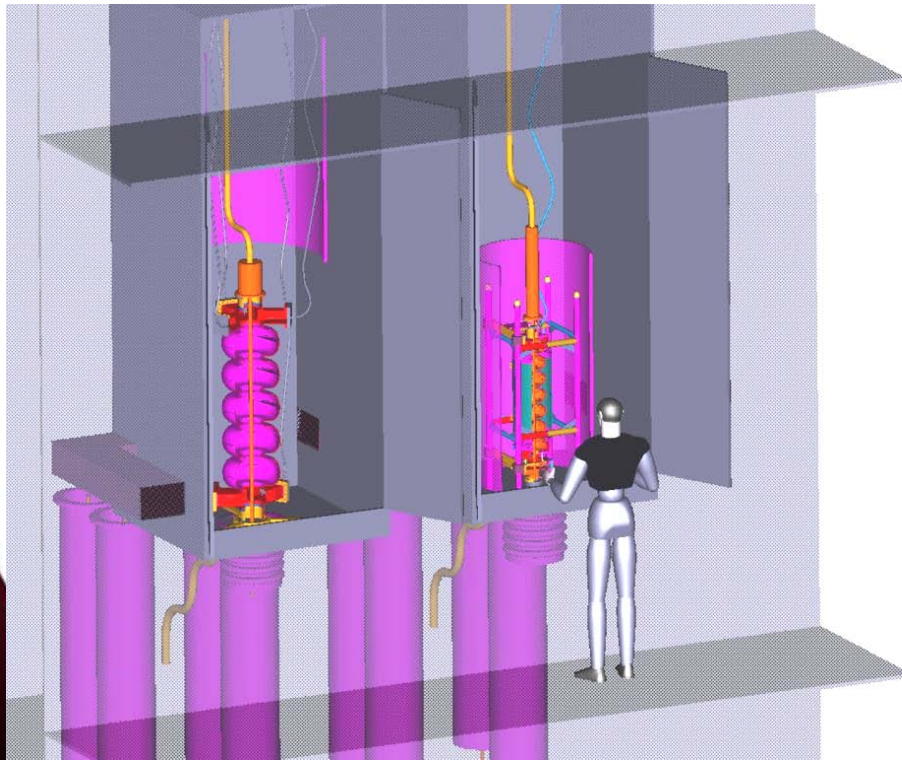
# ICP (Integrated Cavity Processing) tool concept will integrate multiple process steps with minimum handling in new TEDF facilities



## The next step, ICP:

We need confident and variable multi-parameter process control.

- ICP units will integrate VEP, BCP, HPR, US, and HWR in an automated tool in a clean environment.
- The concept is to leave the cavity stationary and bring the sequential processes to the cavity.



TTC Mtg Feb 2011

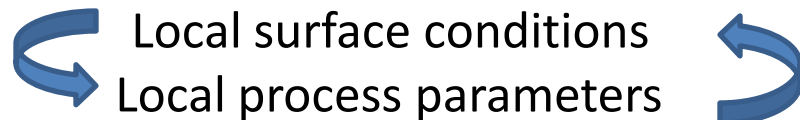
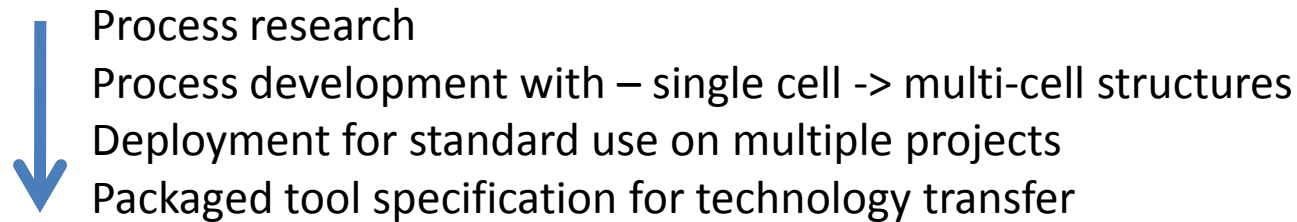
Slide 10

# JLab Plans for Integrated Cavity Processing (ICP)

## The Route to Industrialization of Cavity Processing

Reproducibility requires integrated control

Supporting this strategic interest requires ongoing



Building understanding in this domain is **research**.

Translating the current understanding into workable, desired application to cavities is **development**.

Implementing an intentional tool that provides a reliable application process is **process engineering**.

Controlled production processing

electrochemistry  
topography  
HPR

ILC 9-cells  
JLab upgrade  
VEP

ICP

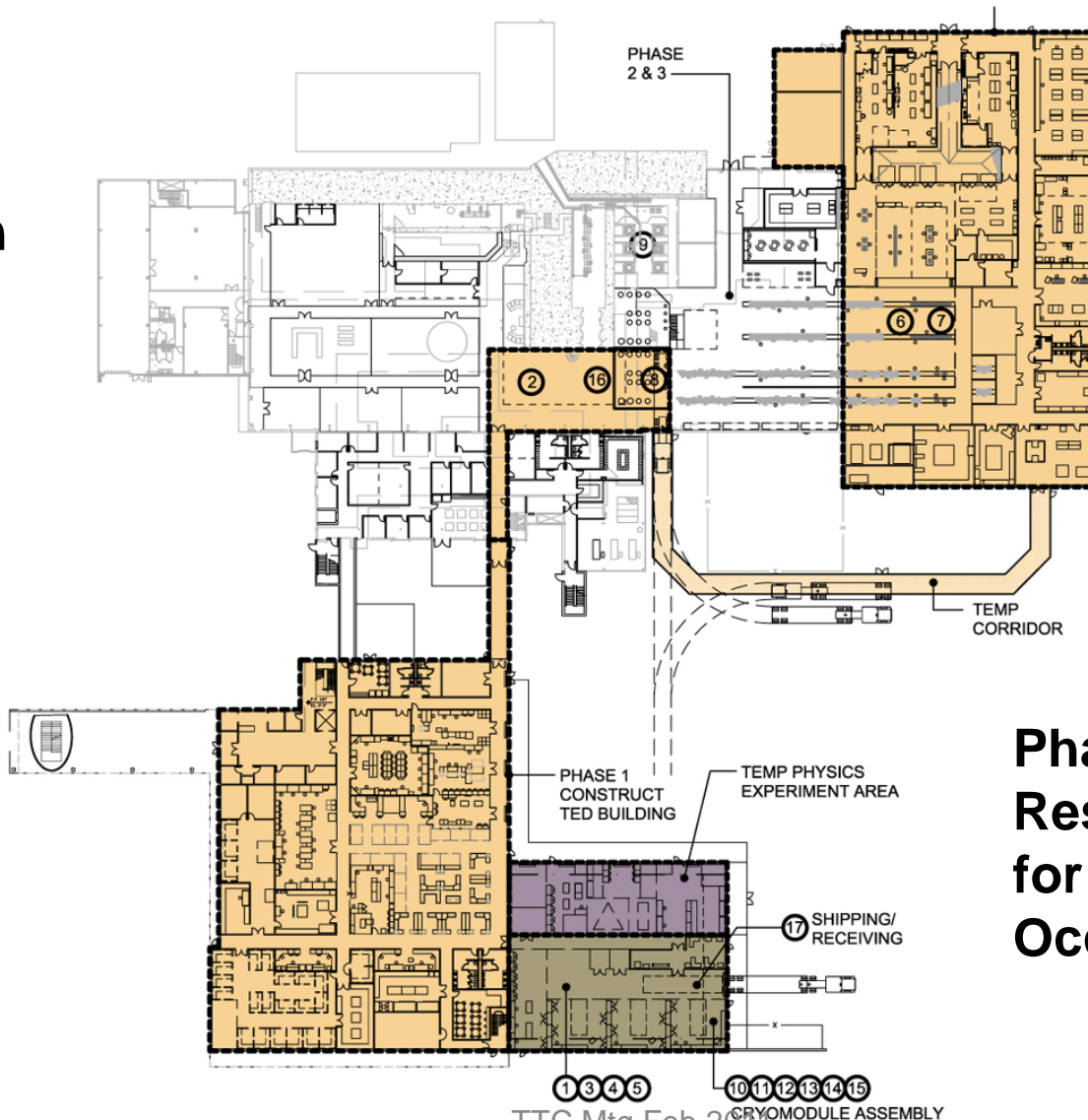


# TEDF Project Phasing

**Phase 2:  
Prep Bldg  
58 for  
Shutdown**

**Phase 3:  
Renovate  
Bldg 58**

**Phase 1:  
Construct  
TED Bldg &  
Test Lab  
Addition**



**Phase 4:  
Restore TED Bldg  
for Final  
Occupancy**

# TEDF Summer 2010



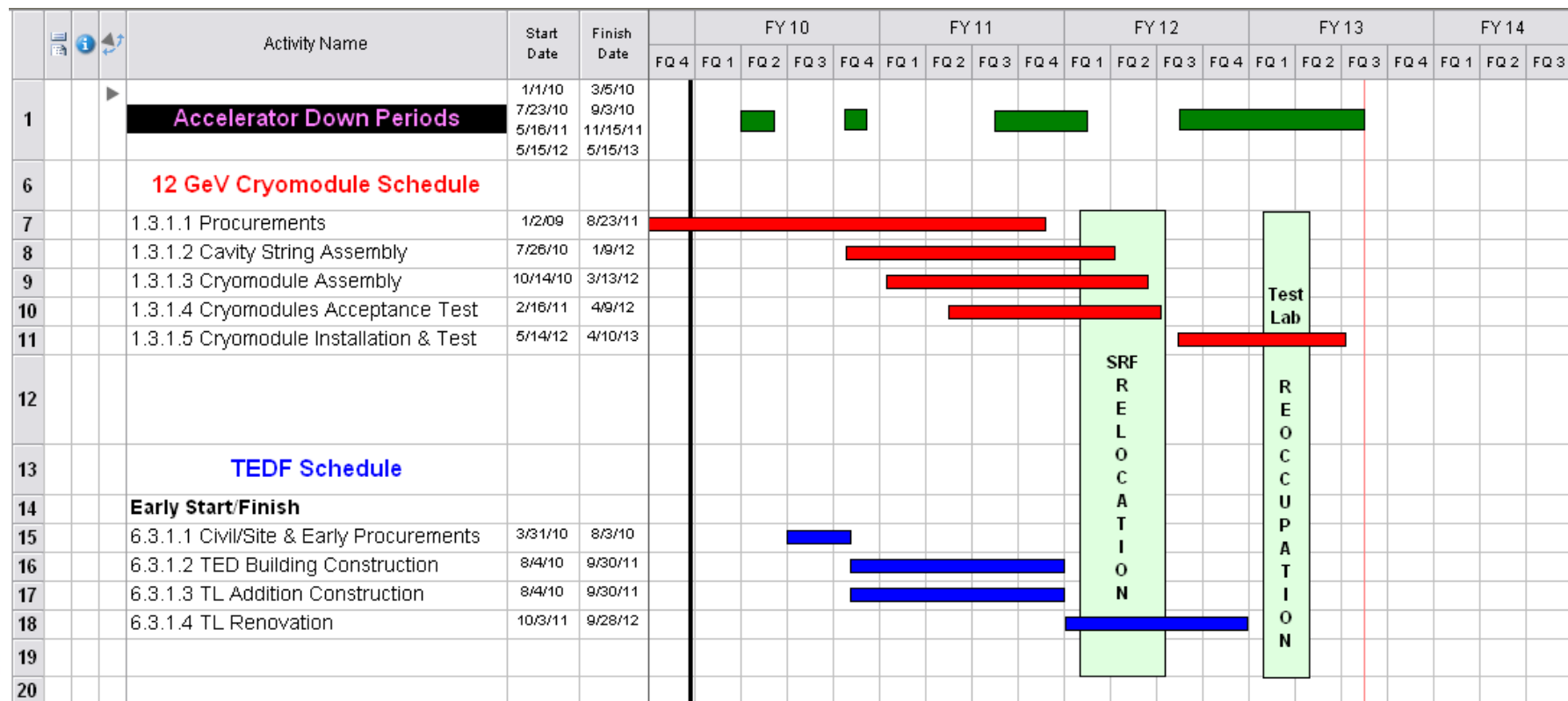


# TEDF Feb 2011





# TEDF Project Schedule



# Ante-TEDF (First JLab cavity processing facility– 1988)



Progress continues ...