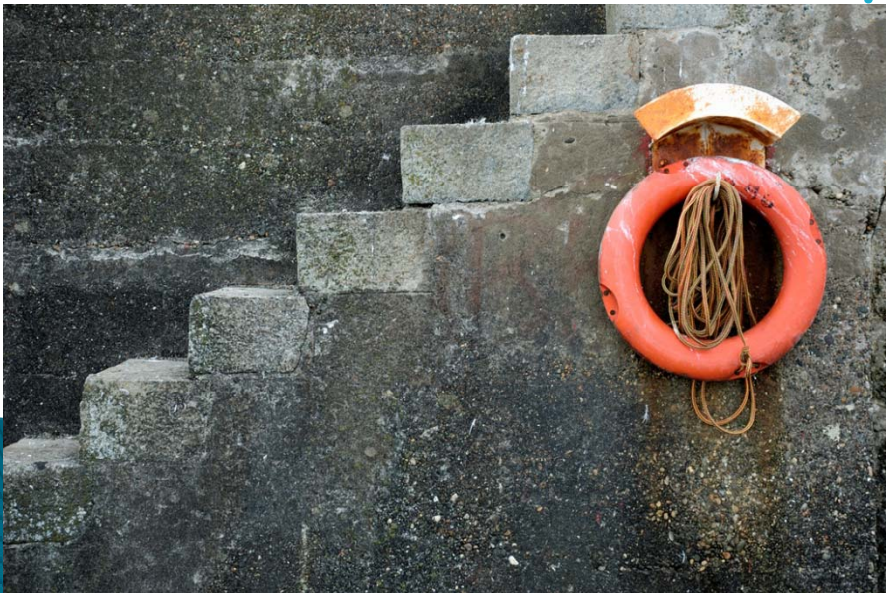


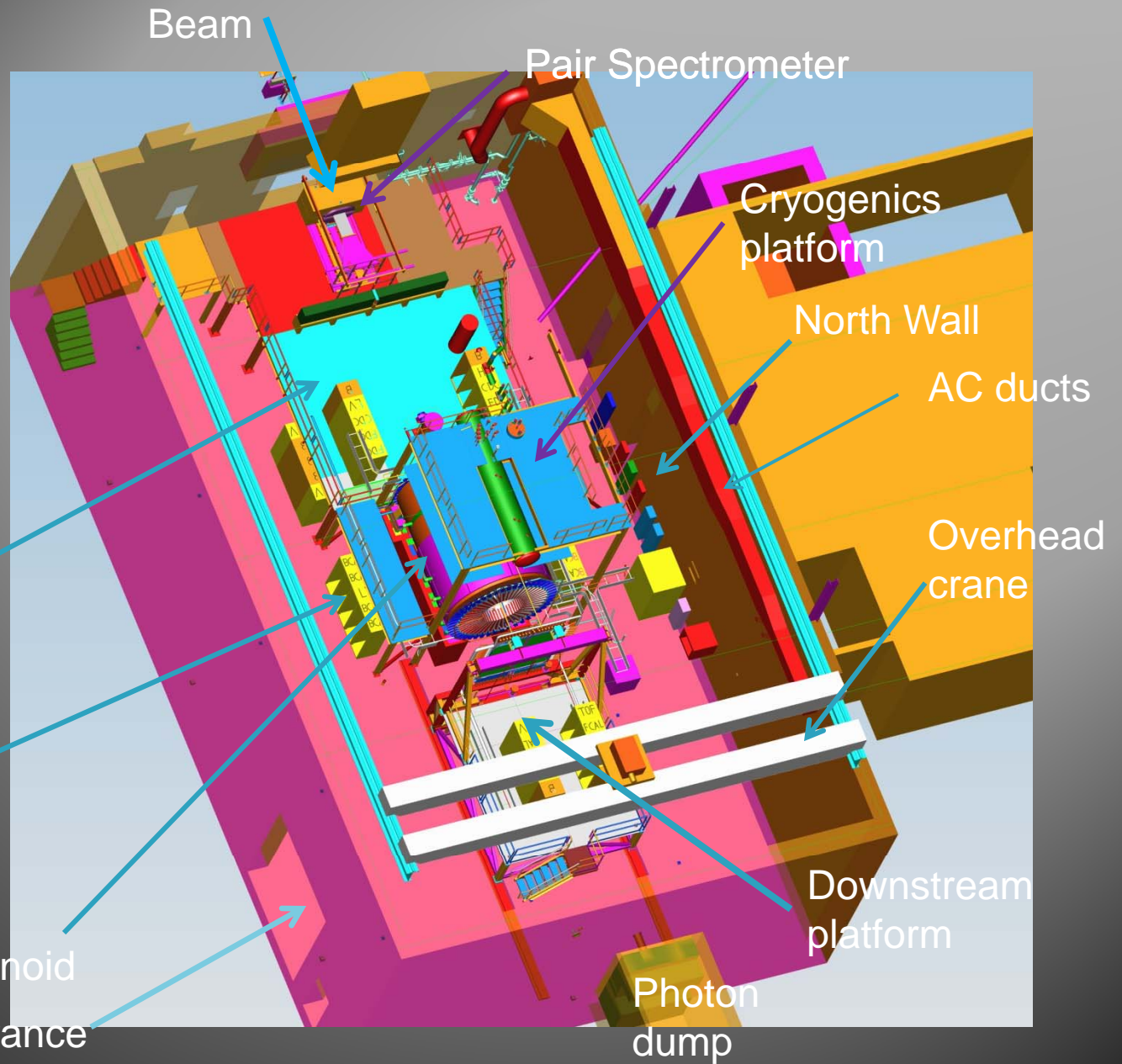
Engineering/Install Status

Stone Upon Stone



Hall D

● Complete 3D model



What has JLAB Engineering group been working on Since Feb?

- ▶ Detail design for CDC
- ▶ BCAL tooling and installation design/procedures
- ▶ BCAL readout prototype design/procedures
- ▶ BCAL Light guide gluing
- ▶ FCAL support structure (IU J. Frye)
- ▶ Magnetic Field reduction – solenoid cladding (FCAL pmt's and Racks)
- ▶ FDC tooling and fabrication
- ▶ Tagger magnet/vacuum chamber procurement
- ▶ Upstream platform installation
- ▶ Design and fabrication of Solenoid components (baffles, cladding, shims)
- ▶ Cryogenics requirements and interface design and Fab
- ▶ Fabricating solenoid cryo tank nitrogen shield
- ▶ Solenoid controls for final installation
- ▶ Solenoid installation
- ▶ Supporting civil construction
- ▶ Collimator Beamline component design fabrication and install
- ▶ Cooling water (LCW) design and install
- ▶ Target Design
- ▶ TOF design
- ▶ Start Counter Design
- ▶ Pair spectrometer magnet mod and vacuum chambers
- ▶ Electrical power plan and grounding plan for the hall.
- ▶ Pair Spec magnet power supply specification
- ▶ FCD install/cable mock up

Who is doing Engineering/Fab work at JLAB?

Mechanical Engineer – Bill Crahen, Josh Ballard, George Biallas, Jim Foctman, Narcisso Gomez, Tim Whitlatch

Electrical Engineer (Power) – Giles Brown

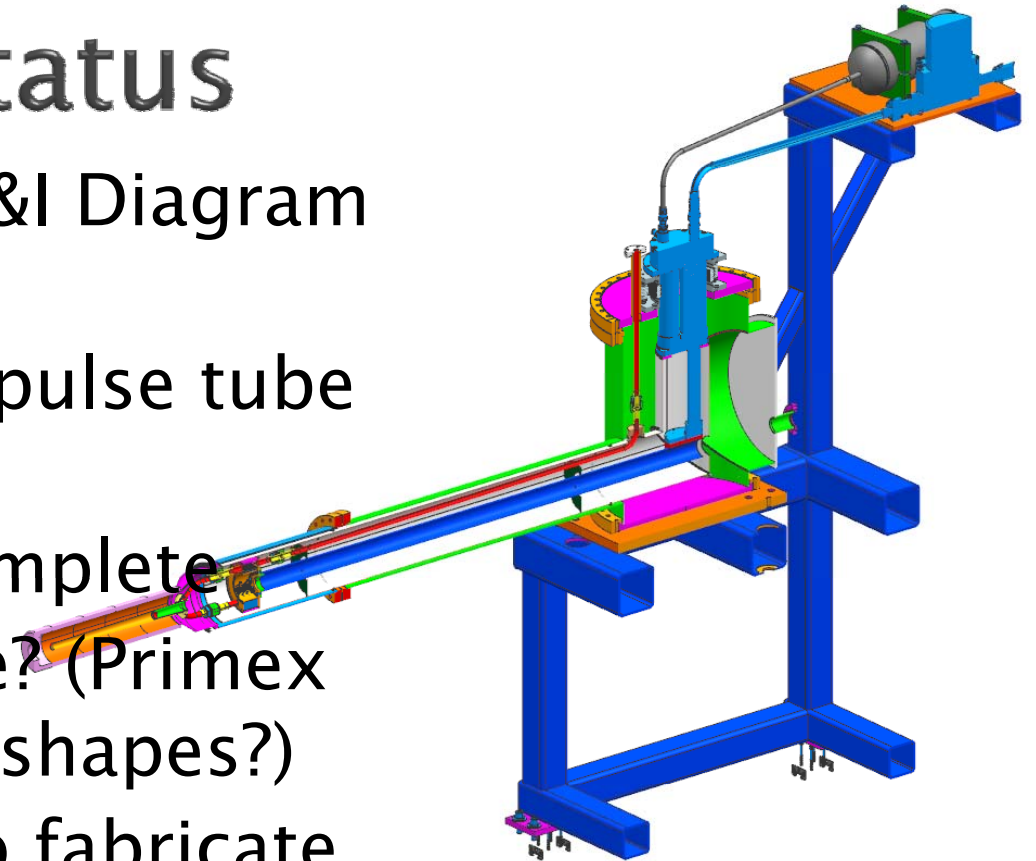
Mechanical Designers – Chuck Hutton, Slava Razmyslovich, Floyd Martin, Richard Gets, James Lagner, Wayne Sachleben, Damon Rath, John Conger

Mechanical/Electric Fabrication – Tom Carstens (Work Coordinator), - Mark Stevens, Scot Speigel, Josh Foyles, Casey Heck, Graham Humble, Robert Bunton, Al Johnson, David Butler (FDC coord), Mike Beizer, Tina Mann, Joshua Thomason, Mark Bear, Anatoly Sitnikov

Target work Status

- ▶ Requirements and P&I Diagram set
- ▶ Cooling of liquid H (pulse tube refrig) – at JLAB
- ▶ 3D Model almost complete
- ▶ Options for solid, He? (Primex requirements? What shapes?)
- ▶ JLAB Target group to fabricate target starting in April 2012
- ▶ Final in-house Review Feb 23

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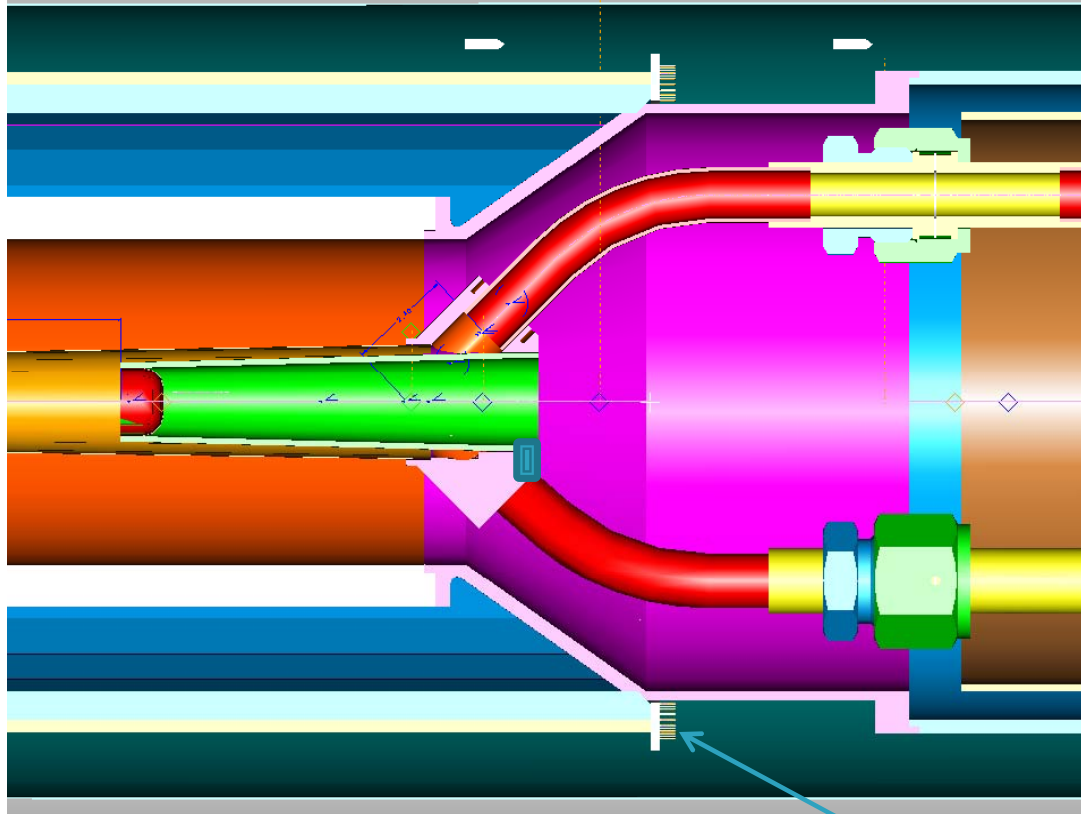


Start Counter work Status

- ▶ Working on SiPm mechanical solution
- ▶ Complete specification requirements
- ▶ Complete design package
- ▶ Prototyping/testing in Florida International

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SC/Target integration



Fit SiPms in
this space

CDC work Status

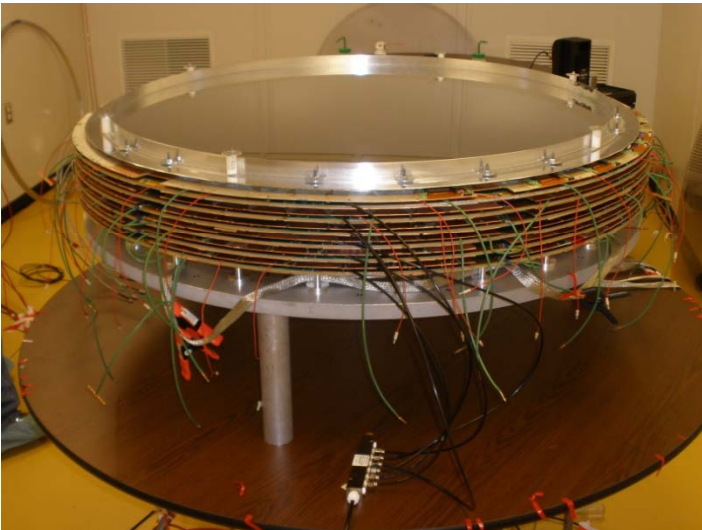
- ▶ Upstream gas plenum (swiss cheese) plate delivered to CMU
- ▶ Procure gas plenum pieces for CMU - components almost complete
- ▶ Finalize transition board and emf shielding (some being made)
- ▶ Complete installation cart design and fab - results from mock up good!



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FDC work status/remaining

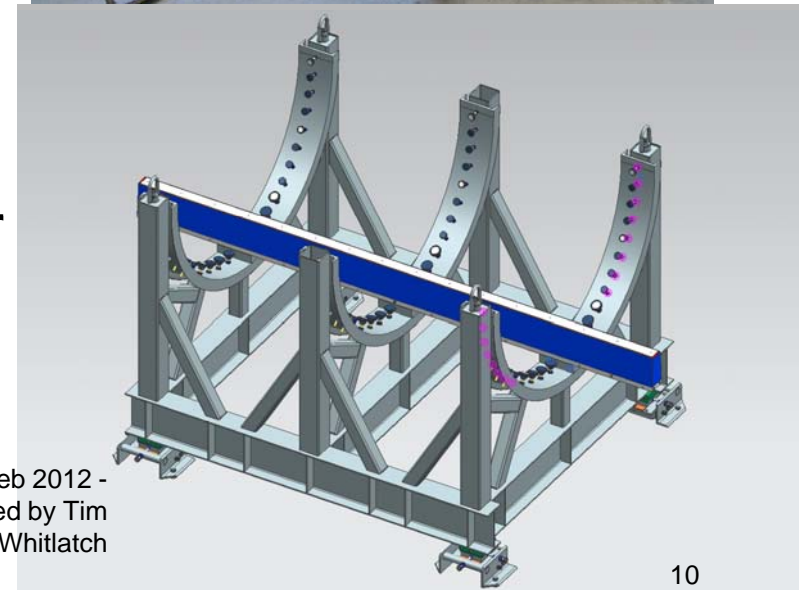
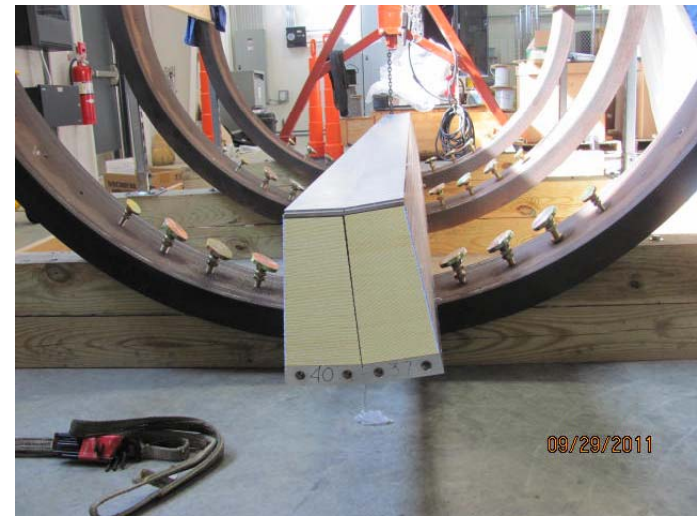
- ▶ final assembly drawings almost complete
- ▶ Complete fabrication procedures/travelers (most are complete)
- ▶ Fabrication of FDC package 2 complete
- ▶ Tooling complete
- ▶ Installation cart design and fab underway



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BCAL work status/remaining

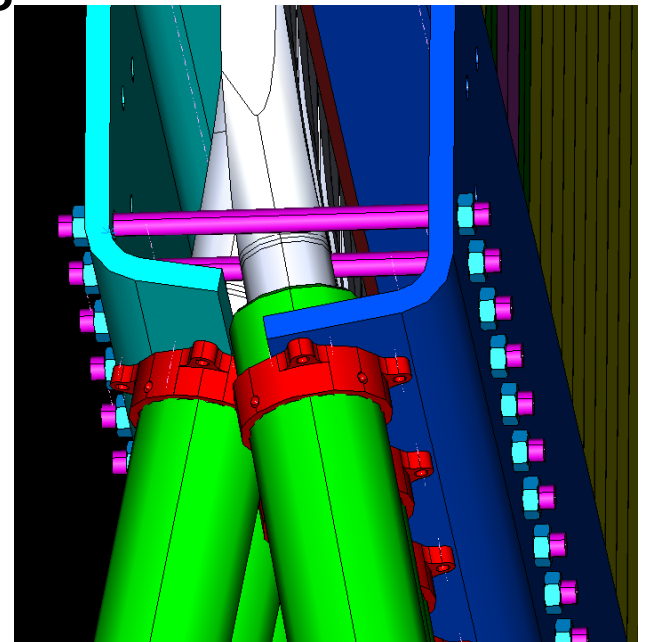
- ▶ Readout configuration – light guide gluing tests complete and ready for real light guides
- ▶ Baby-Cal assy to begin next week
- ▶ Assembly tooling – in fabrication
- ▶ All wedges received (In ESB)
- ▶ Production procurements for readout to begin once Baby-cal is tested



TOF remaining work

- ▶ Final detail design - working on light guide and magnetic shielding design and support
- ▶ Light collection- prototype tests at Florida

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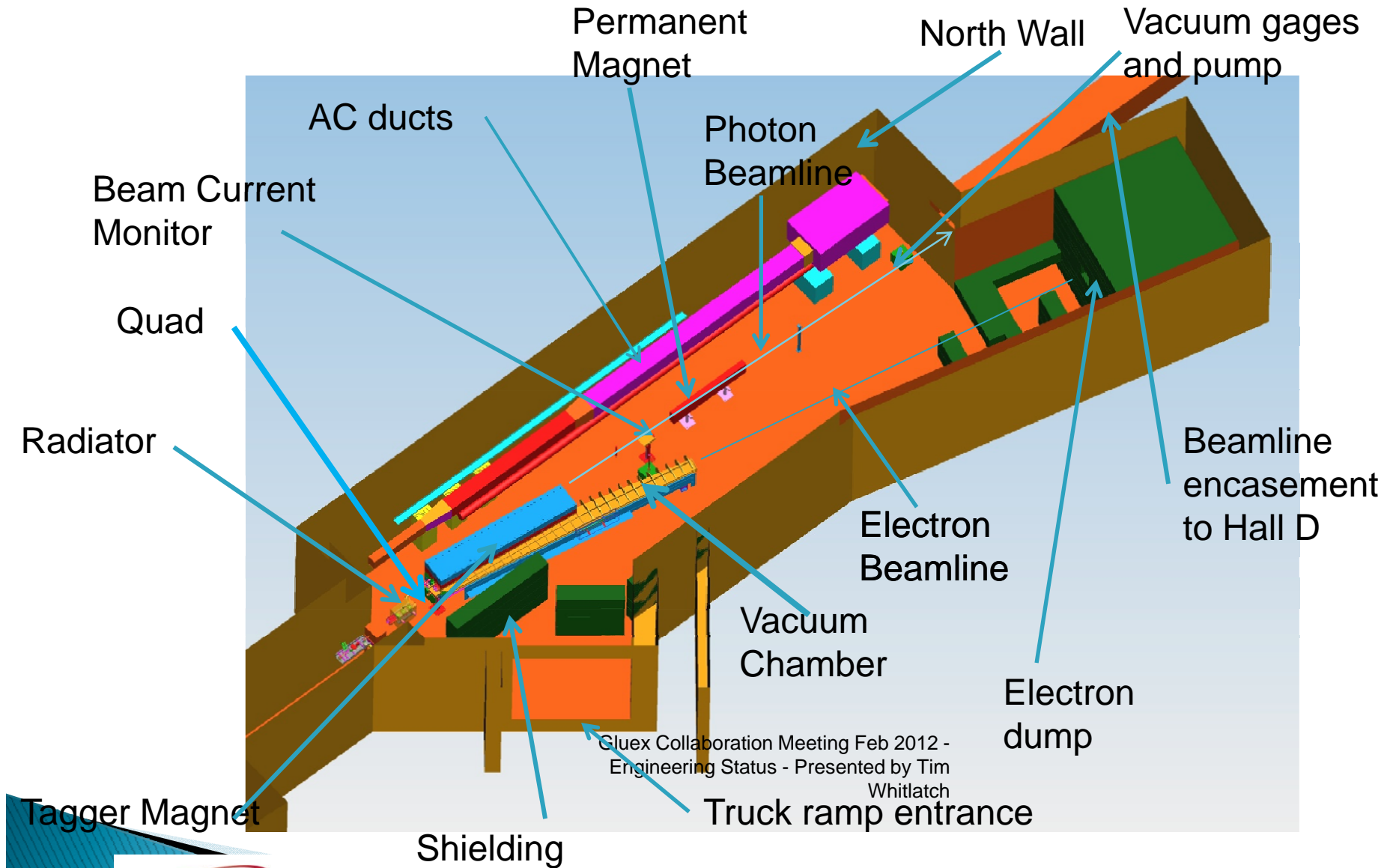


FCAL Status/remaining work

- ▶ Support frame design – complete (IU fabricating)
- ▶ Dark room– cooling (IU/JLAB) TBD

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Tagger Area

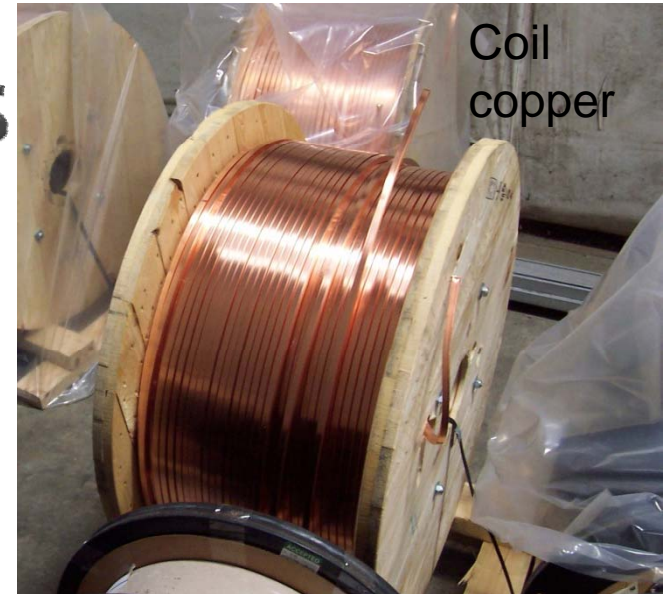


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Tagger Status / remaining work

- ▶ Completed detail designs / drawings for
 - Vacuum chamber – Vendor chosen
- ▶ Design of magnet stands finalized
- ▶ Magnet steel rough machined and initial ultrasound complete
- ▶ Work with Catholic U on modified fixed array
 - Prepare procurement packages and assy
- ▶ Work with Connecticut U on Microscope mounting
- ▶ Install Magnet and all components in tagger Hall – start Oct 2012
- ▶ Design / Fab / Install Magnet Gantry system

Tagger Components



Coil copper

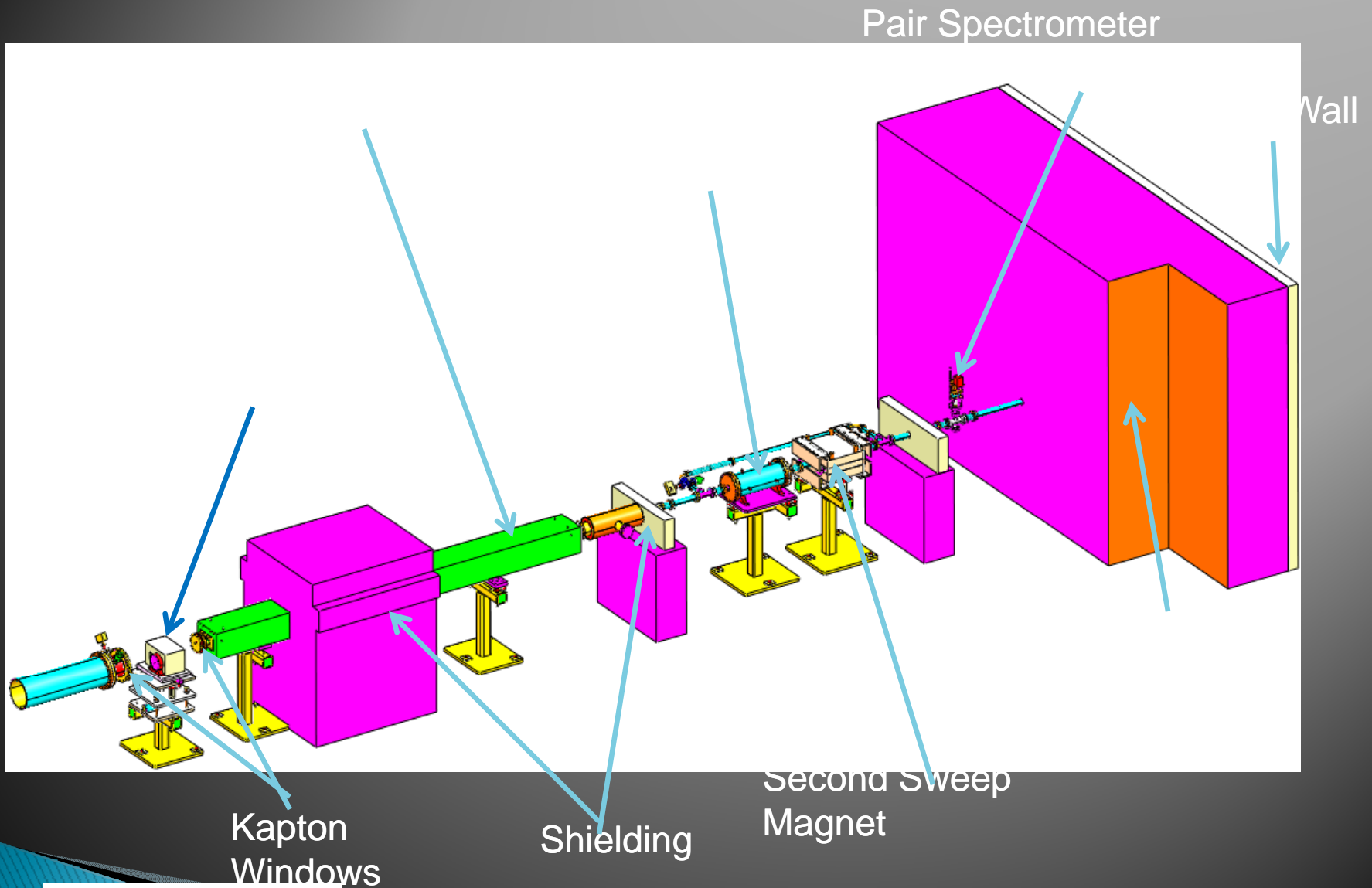


Winding fixture



Steel as forged

Collimator Cave Layout



BeamLine Status/remaining work

- ▶ Radiator/Goniometer – requirements/design
- ▶ Fabricate vacuum beamline components– most complete
- ▶ Pair spectrometer design of pole and vacuum chambers complete– fabrication underway
- ▶ Modify perm mag vacuum chambers – complete
- ▶ Power supply spec/procurement – in work
- ▶ Pair converter – requirements/design/procurement
- ▶ PS Detector detail design/fabrication – working

Solenoid Status/remaining work

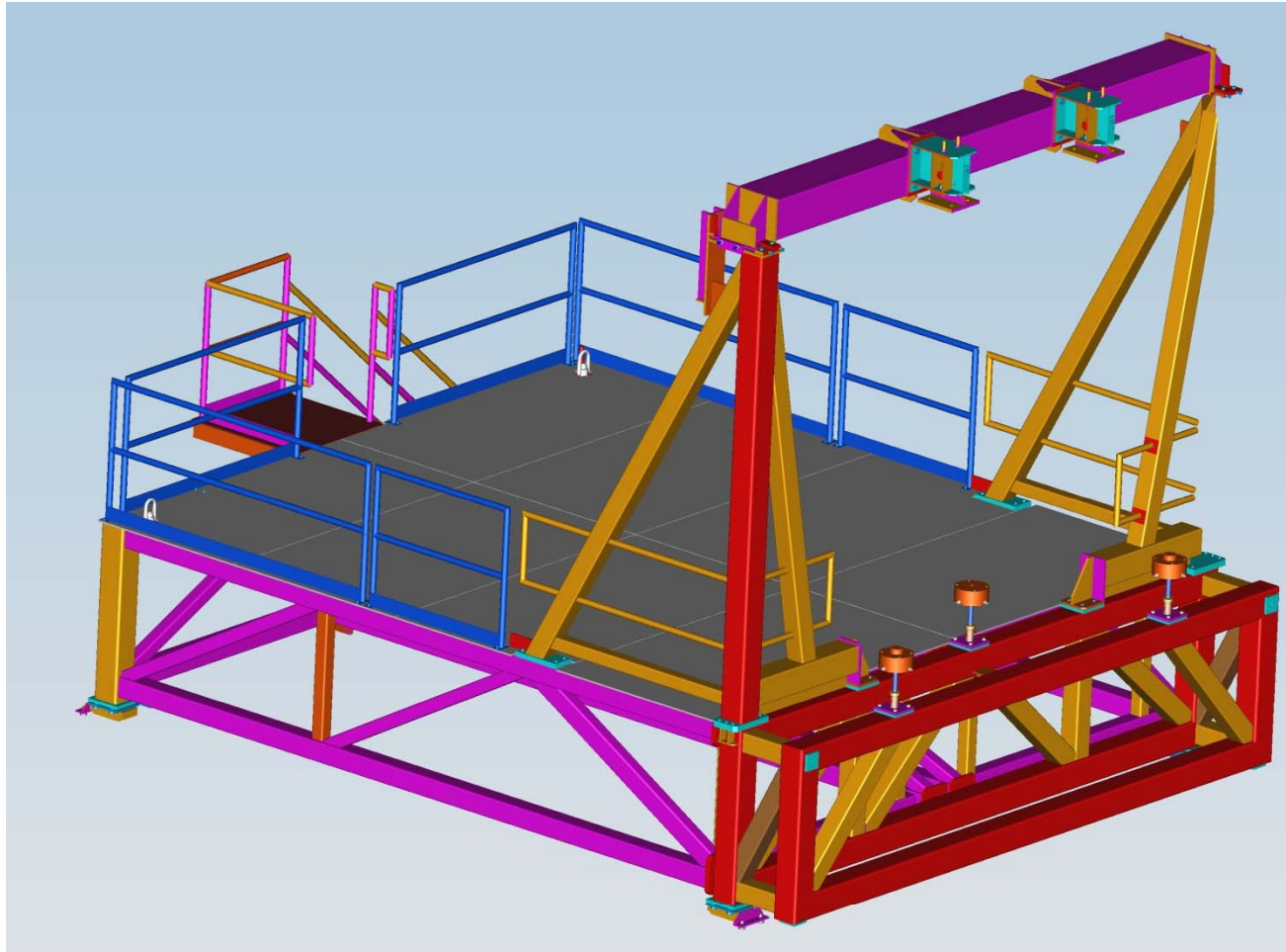
- ▶ Installation of Coils and Steel in Hall – Complete
- ▶ Design/Fab cryobox – cryo group at JLAB – He vessel and vacuum vessel in fabrication
- ▶ Interface of cryo and coils in work
- ▶ Controls to be updated
- ▶ Power supply mods to be done
- ▶ Cladding steel due in April
- ▶ Baffle supports in work

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Infrastructure status/remaining work

- ▶ Tooling design – well under way
- ▶ Cooling systems design (liquid and air) –FDC, CDC and BCAL in work
- ▶ Gas system design – details needed (Engineer assigned)
- ▶ Platform designs – upstream, cryo and FCAL done. Upstream installed, FCAL approved by facilities, Cryo to be submitted soon
- ▶ Electrical layouts – In work
- ▶ Counting House UPS install – in work
- ▶ Cable runs/support layouts – in work
- ▶ Tagger area infrastructure LCW in work
- ▶ Cryogenics transfer line and can – in work
- ▶ LCW system in hall awaiting balancing for final hook up

FCAL Platform

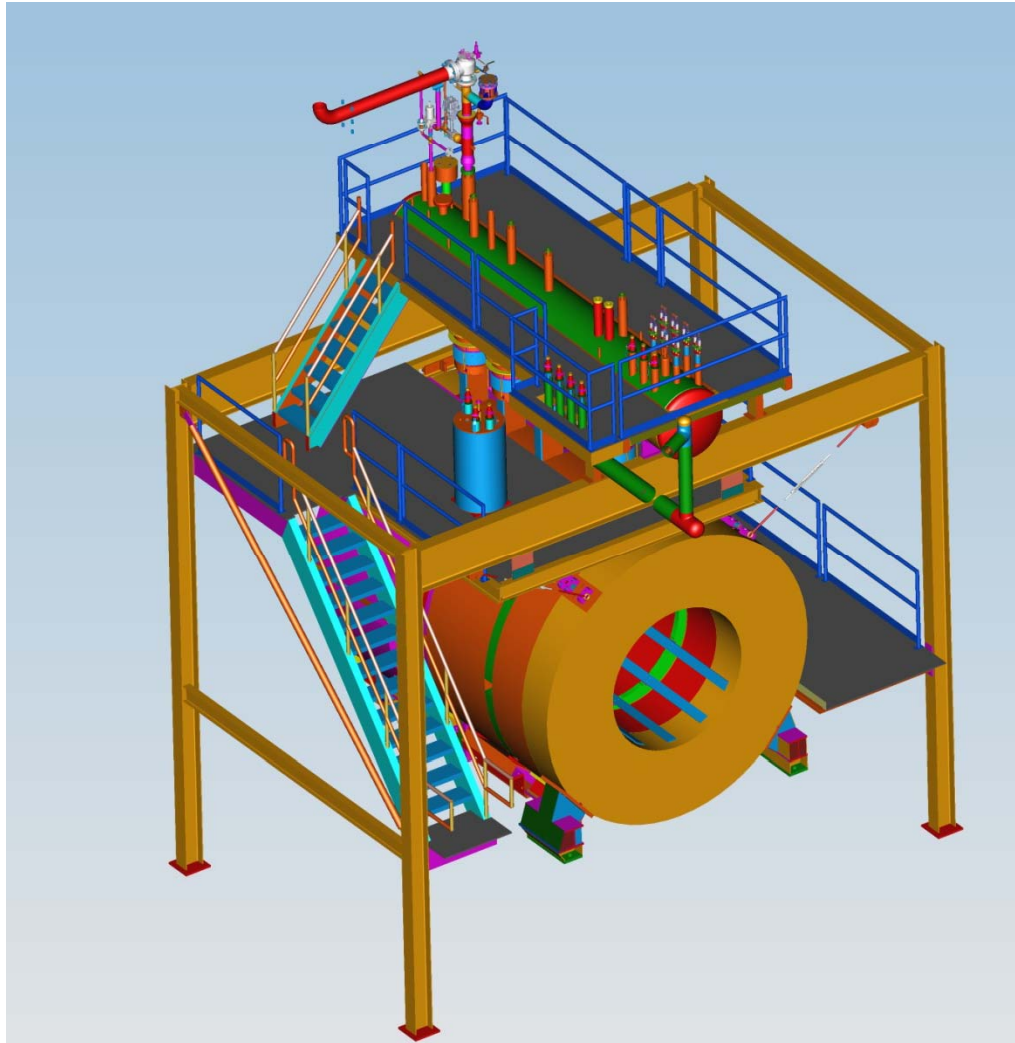


Solenoid install



https://userweb.jlab.org/~akers/HallD/flash/TourWeaver_HallD.html

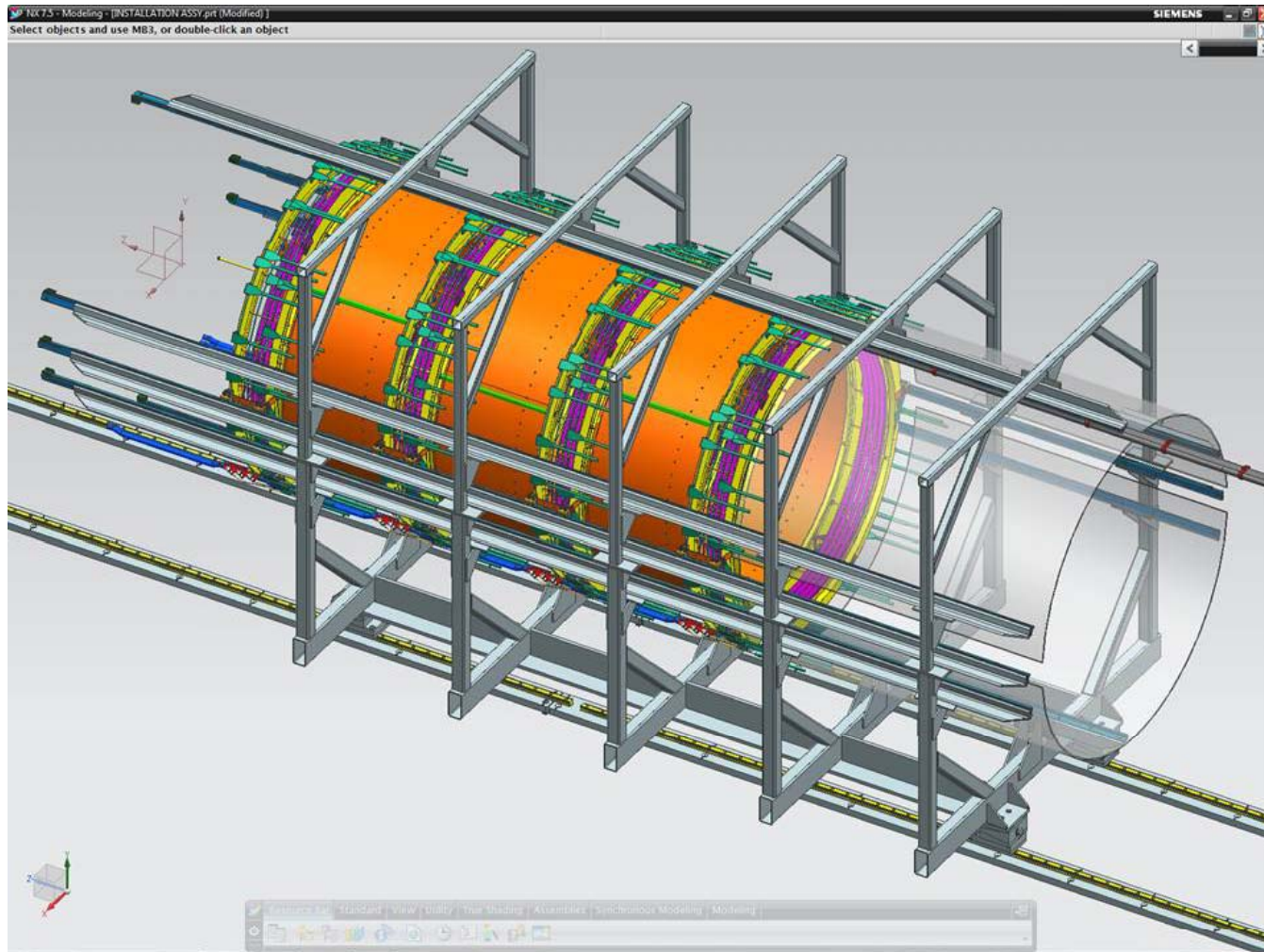
Cryo Platform



Installation Mock up



FDC Installation Cart



Civil status/work remaining

- ▶ Beneficial Occupancy received!
- ▶ Still Have some LCW balancing and punch list items

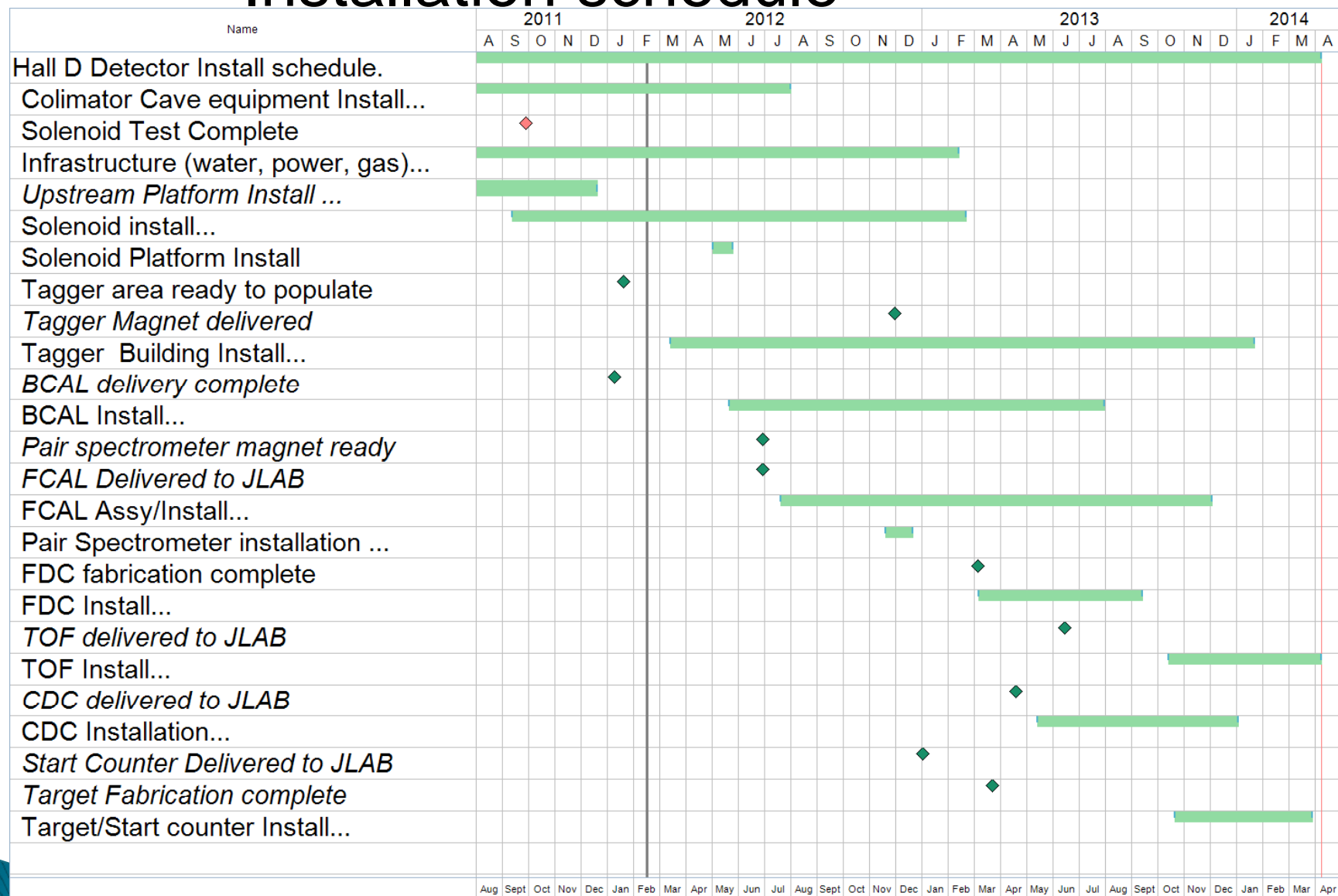
Hall D/Cryo and Counting House



Tagger bldg



Installation schedule



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Installation Support Required 2012–2014

- ▶ Update drawings/specs
- ▶ Review procedures/travelers
- ▶ Resolve ESH&Q issues
- ▶ In process inspection
- ▶ Additional planning
- ▶ Actual hands on labor
- ▶ Infrastructure design
- ▶ Support procurements

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Remaining Reviews for 2011

- ▶ Full Lehman (Oct 18–20)

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Keep on Truckin'!



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