

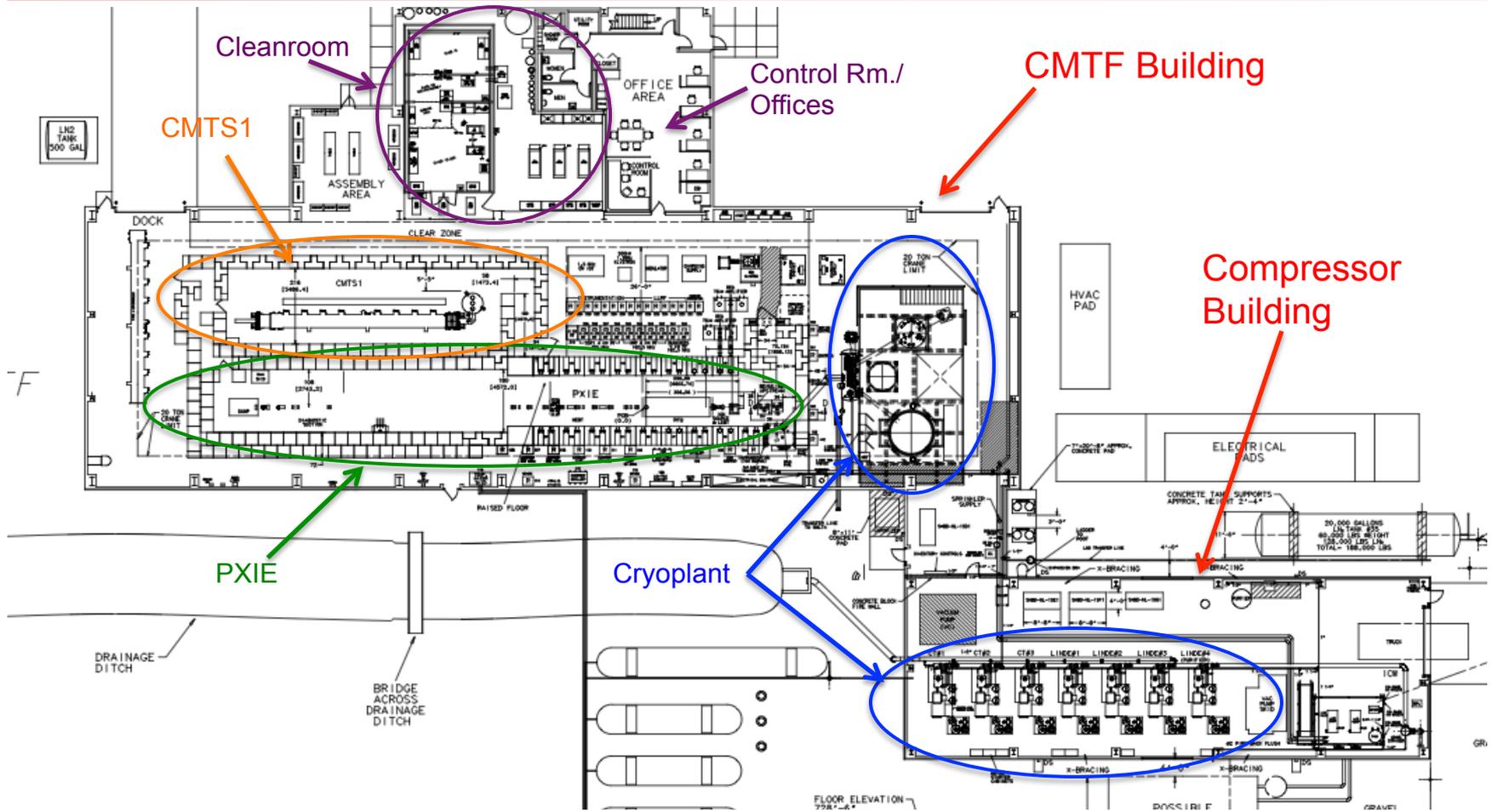
PXIE & CMTF Infrastructure Update

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January 28, 2014



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- PXIE & General Infrastructure
 - Cave, alignment, electrical, water, compressed air, RF, Ion Source, LEBT, RFQ
 - Cryoplant
 - Linde cryoplant commissioning, SLAC coldbox installation
 - Cleanroom
 - Control Room
 - CMTS1
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CMTF Building





- **Cave**
 - Walls and penetration blocks of first half of cave are constructed and painted
 - Floor is epoxy coated
 - Radiation Safety has approved current design/plans
 - No additional work planned for this year
- **Alignment**
 - Alignment network established within building
 - Still need to densify network within cave (prior to roof installation) and install Deep Rod Monuments to monitor movement of building (as time and money permit)

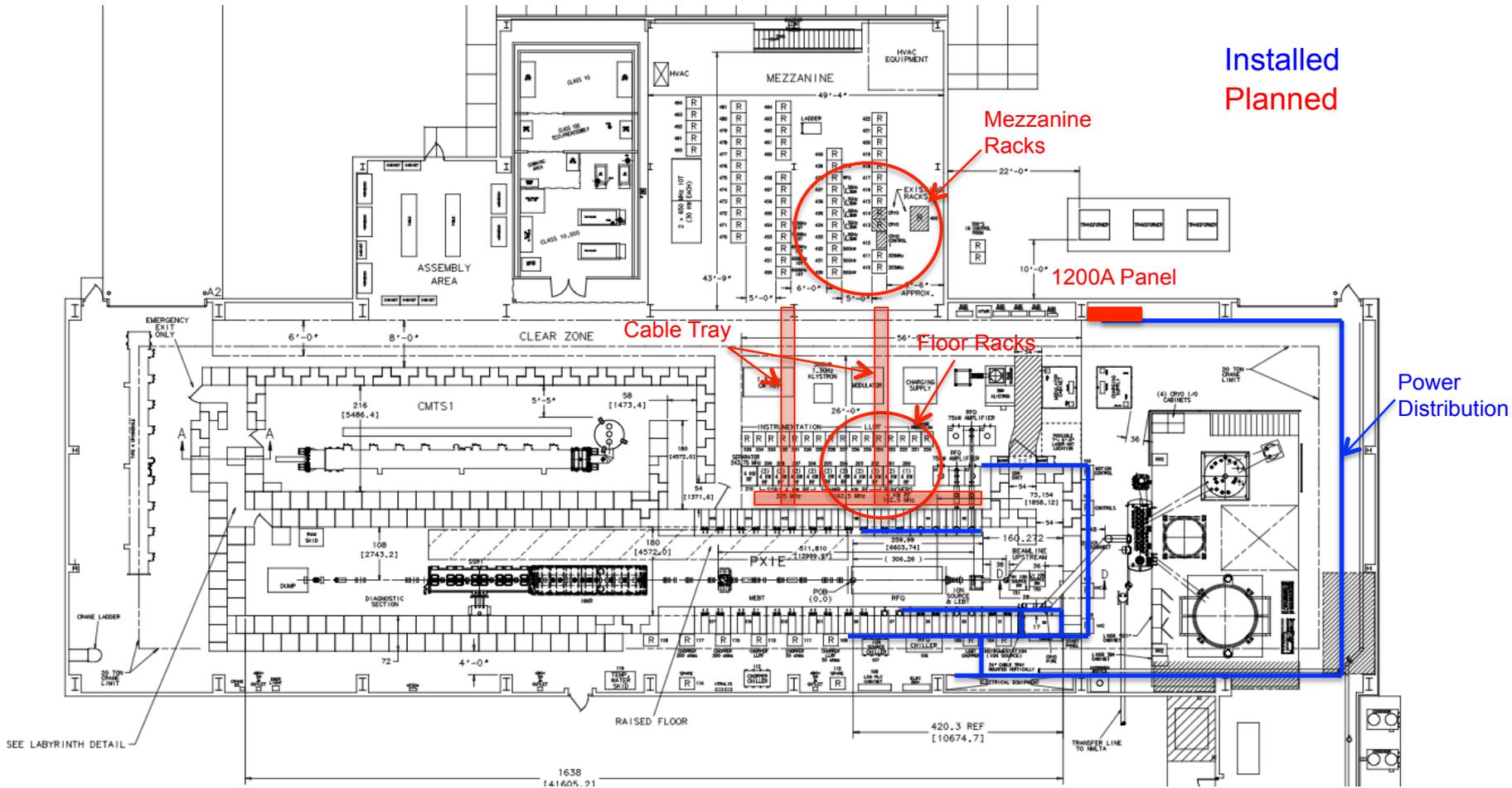




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- **Current Status**
 - Racks and power distribution on North and East side of cave in place
 - Ion Source power, wall outlets and tray for front-end of cave complete
 - Temporary power distribution for LEBT solenoids and RFQ RF system in place

 - **FY14 Plans**
 - 1200A panel on West side of CMTF in progress (complete in Spring)
 - Power distribution to mezzanine and control room to follow
 - Installation of subset of racks on mezzanine and floor needed for LEBT and RFQ operation
 - Cable tray distribution from mezzanine to cave
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PXIE - Electrical





East & North Side of Cave



1200A Panel and Distribution



Inside Cave

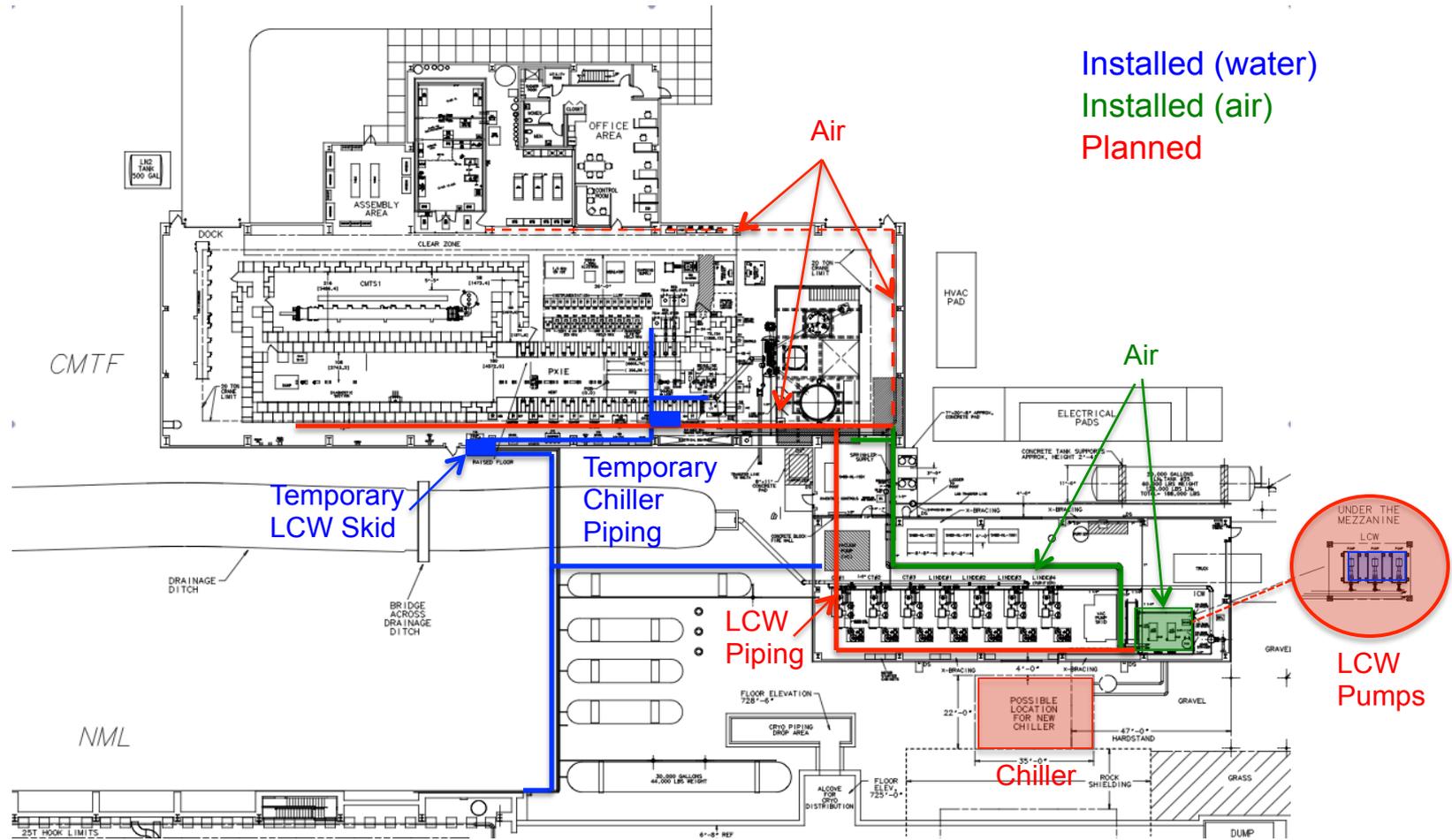


Racks on Mezz. & Floor





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- **PXIE Water**
 - Ion Source chiller and manifolds installed and operating
 - Temporary LCW skid, chilled water pipes from NML, and piping to RFQ RF system for RFQ installed
 - LEBT manifolds installed and piped to temporary LCW skid
 - **LCW System**
 - A few components (pumps, HX, O2 removal) for permanent LCW ordered
 - Remaining LCW components to be ordered this year (big chiller), and installation to begin
 - Plan is to have LCW system complete and operational by Feb. 2015 (to coincide with RFQ delivery)
 - **Compressed Air**
 - Compressed air system installed and operational
 - Distribution along East and West walls of CMTF highbay this year
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Chiller Lines from NML



Temp. LCW Skid & IS Chiller

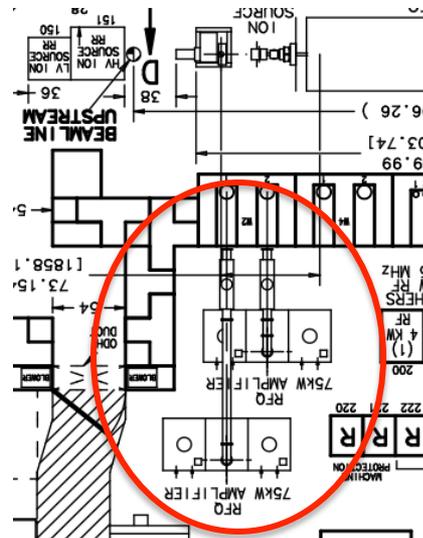


PXIE Manifolds & Air System



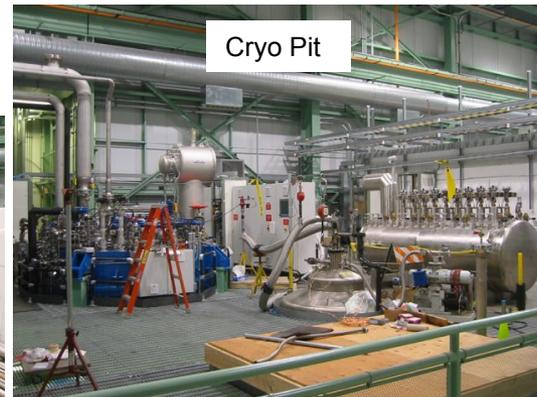


- RF System for RFQ
 - Amplifiers due end of February
 - Water (from temporary LCW skid) and power installed





- Linde Superfluid Cryoplant
 - Installed and being commissioned (expected completion March, 2014)
 - On-going infrastructure work (electricians, new Linde chiller, backup generator, pit sump...)
- SLAC Coldbox (CTI-4000)
 - Being refurbished at MW9
 - Needs to be installed in pit (Feb.-March?) before floor racks and tray can be installed





- New Cleanroom

- Class 10, 100, and 10,000 areas
- External preparation area (ultrasonic tanks, rinse sinks, parts washer, DI water system, clean Nitrogen system)
- Certification and ODH approval received (January, 2014)
- A0 cleanroom activities and personnel in process of moving to CMTF



Preparation Area



Nitrogen Dewar



Cleanroom



Inside Cleanroom





- Control Room/Office Area
 - New control room furniture installed
 - 5 offices, meeting area, kitchen, bathrooms, shower





- CMTS1 (Cryomodule Test Stand – 1)
 - Cryomodule test cave intended for cold RF testing of CM's (no beam)
 - 1.3 GHz, 3.9 GHz, 650 MHz, 325 MHz, 162.5 MHz (CW and pulsed)
 - First customer is expected to be LCLS-II (Dec. 2015)
 - Begin installation of cave walls and minimal outfitting in FY14

