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CRT Ongoing Activities

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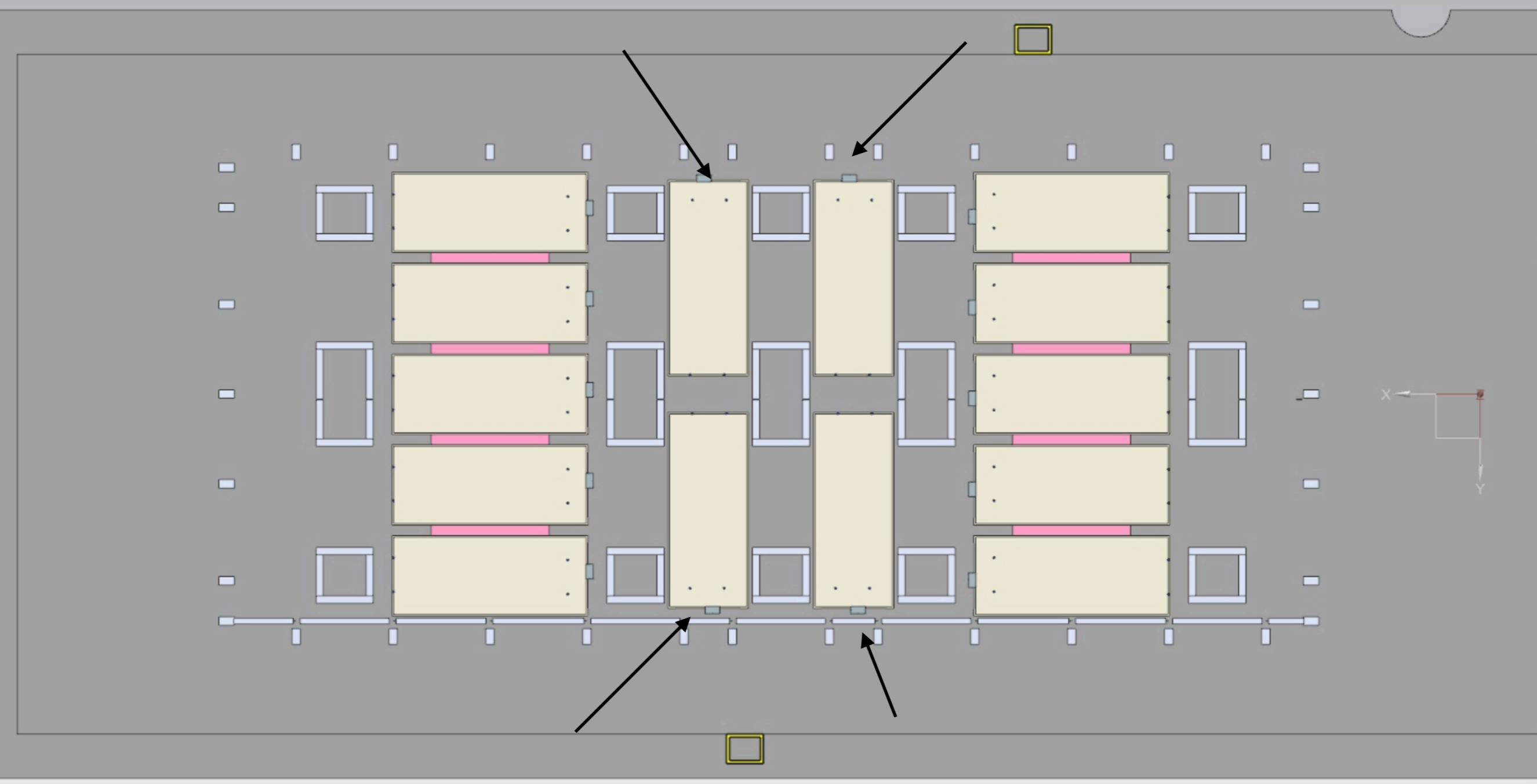
October 09, 2019

Overview

- Status of the bottom CRT
 - Initial inspection of the boards
 - Plans
- Preparing for commissioning the north wall
- Status of the installation of the rolling side CRT

Bottom CRT Setup Reminder

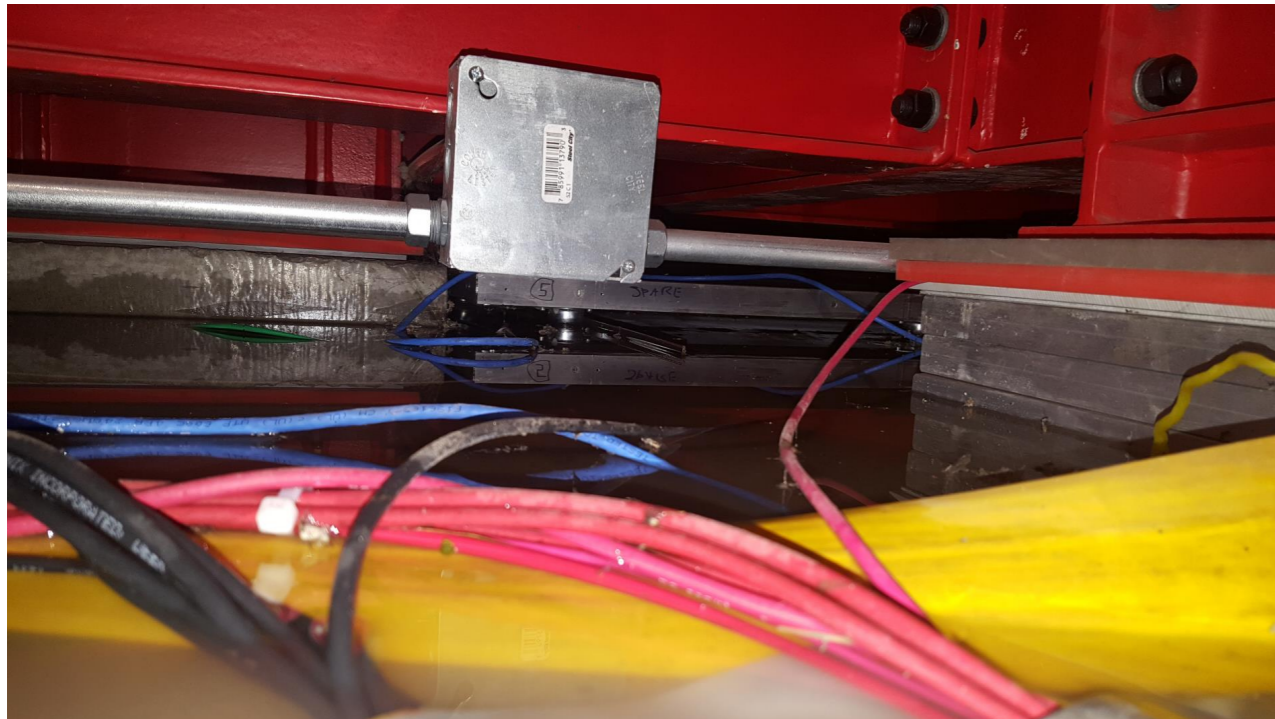
We have access to these boards



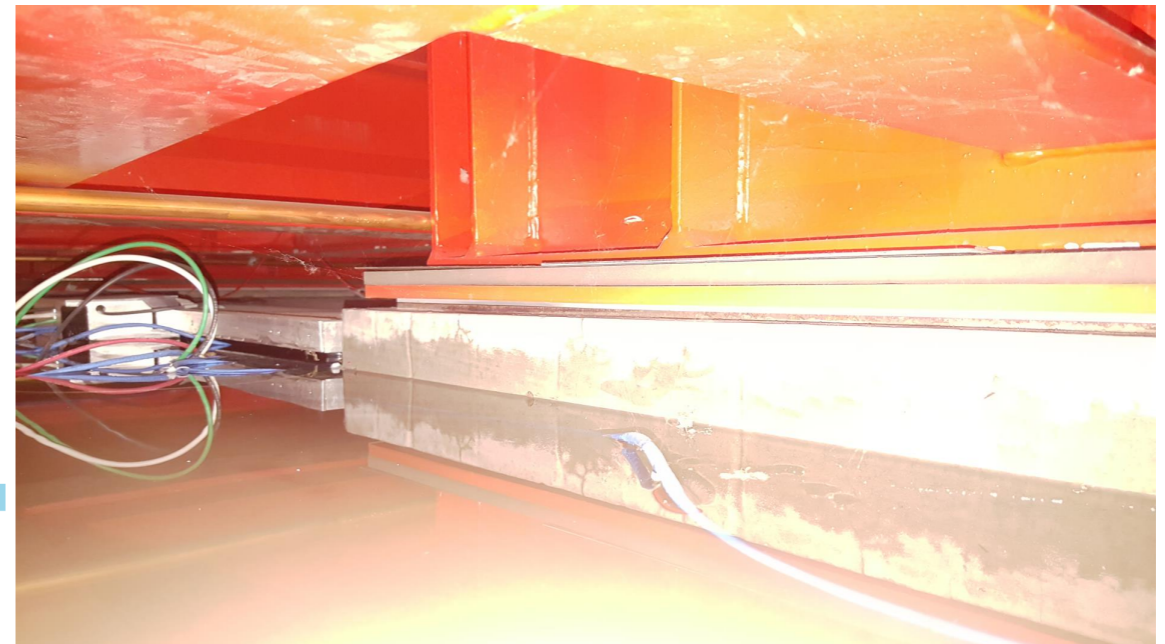
Water at the Pit area

- We had a sump pumps failure at the Icarus building
- The water depth was higher than the underside of the bottom CRT panels

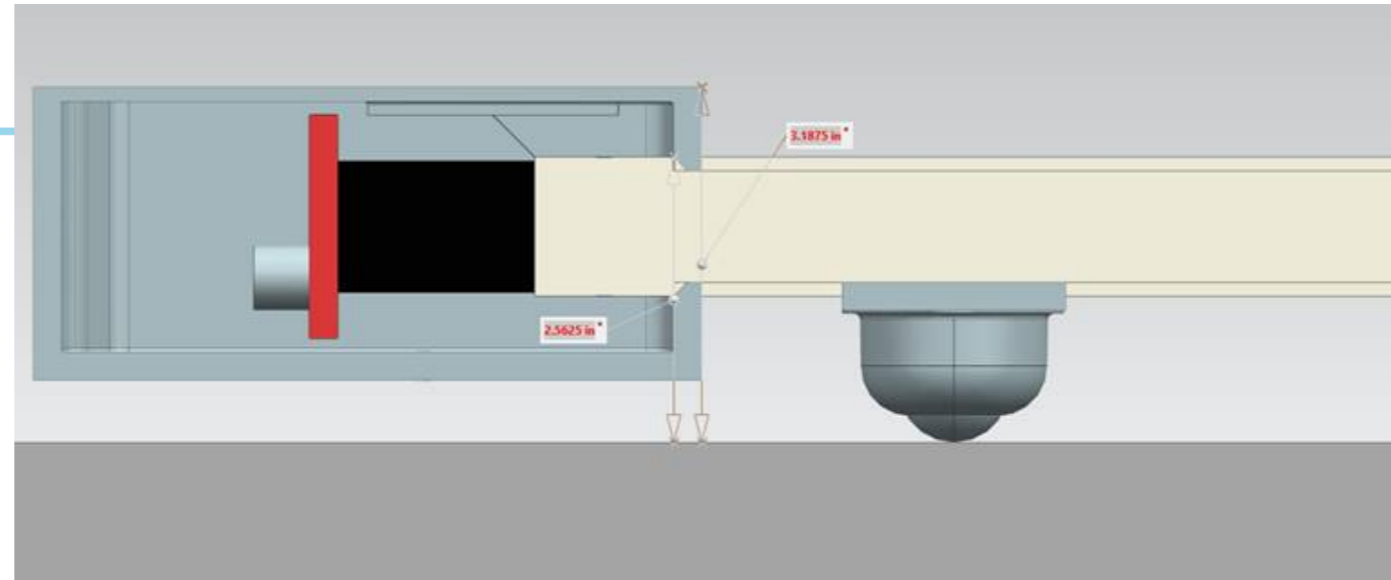
West, center



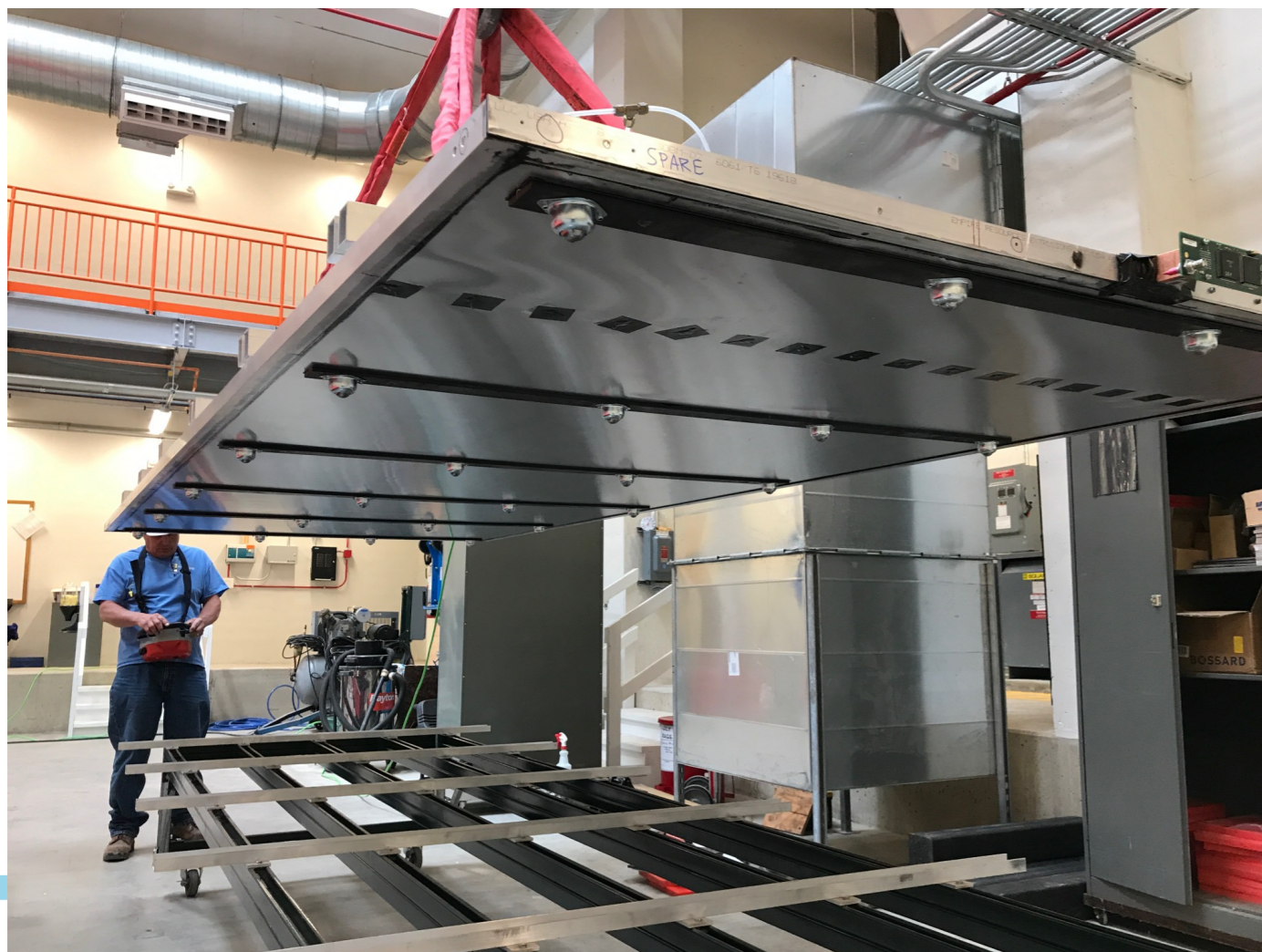
East, center



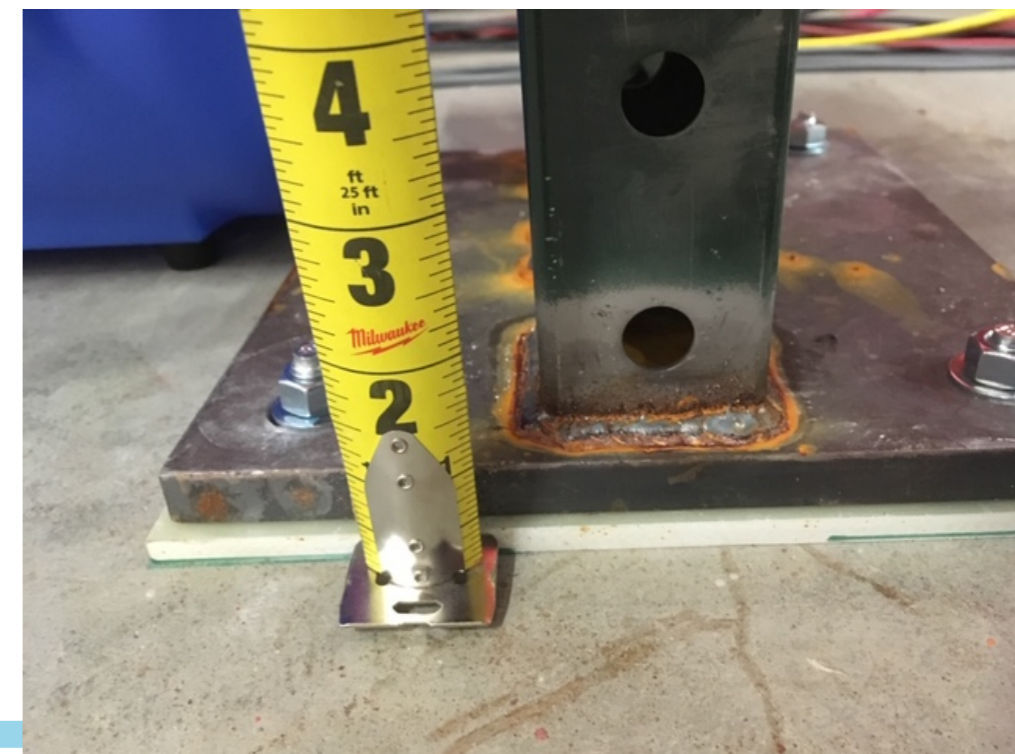
Distance from the floor to bottom CRT and water level



From Justin Tillman: We glued ball [transfers](#) to the bottom of the CRT's for installation purposes. The distance from the floor to the top of the CRT is 2.563" and to the top of the electronics protection box is 3.188". the box was not designed to be water tight, it has holes for the wires.

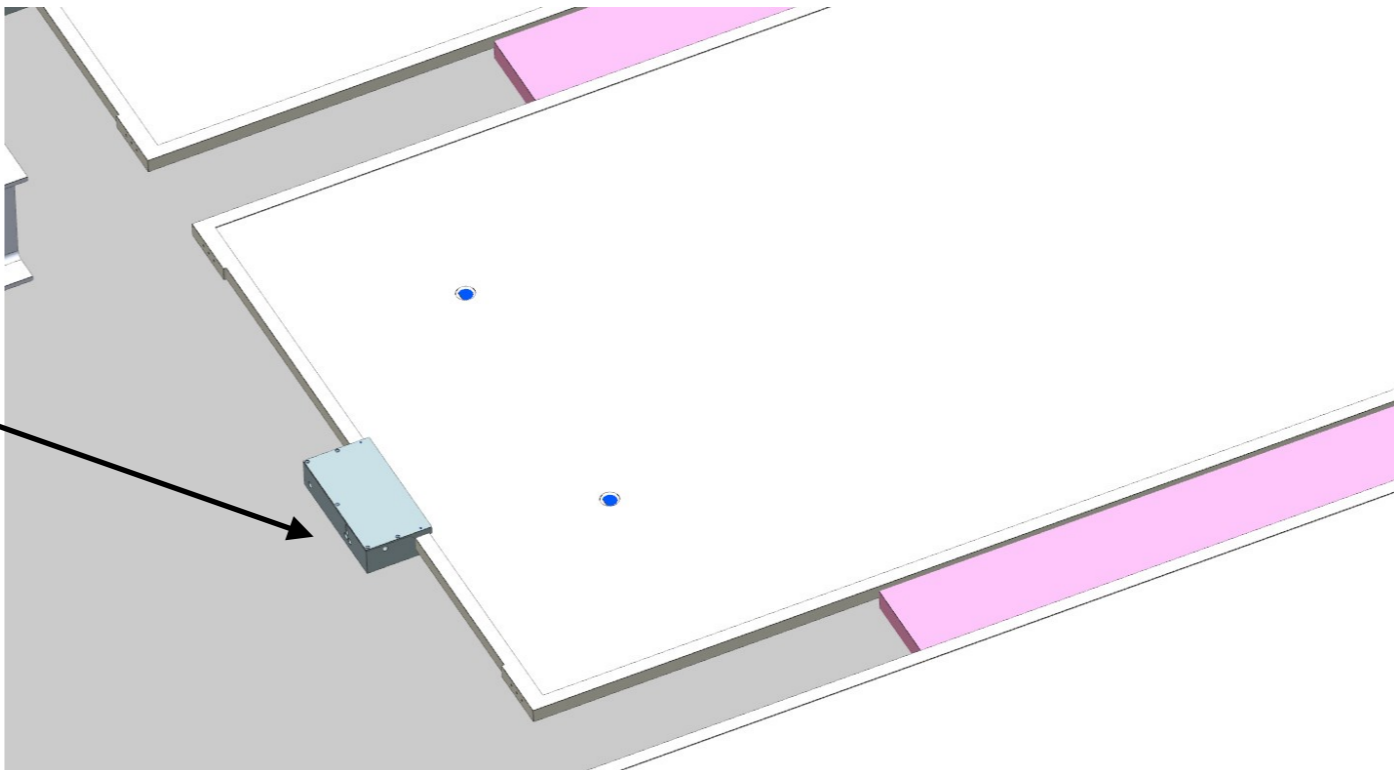


Water level: ~2 inches

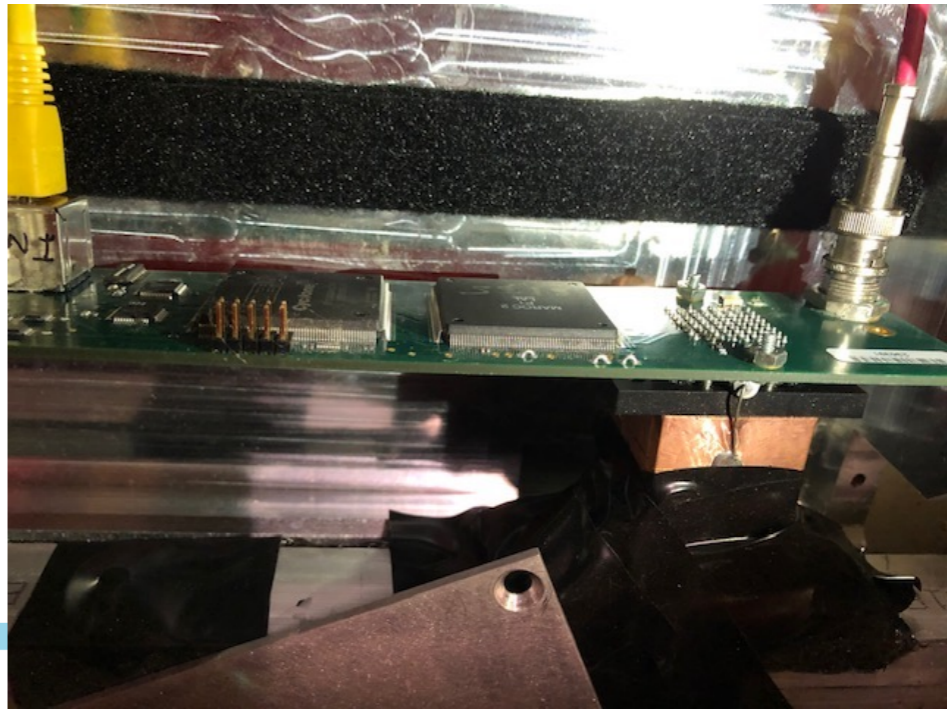


Board Inspection at West Side

We inspected the two boards at the west side and we did not see any sign of water inside the box



Everything look pretty clean inside the box

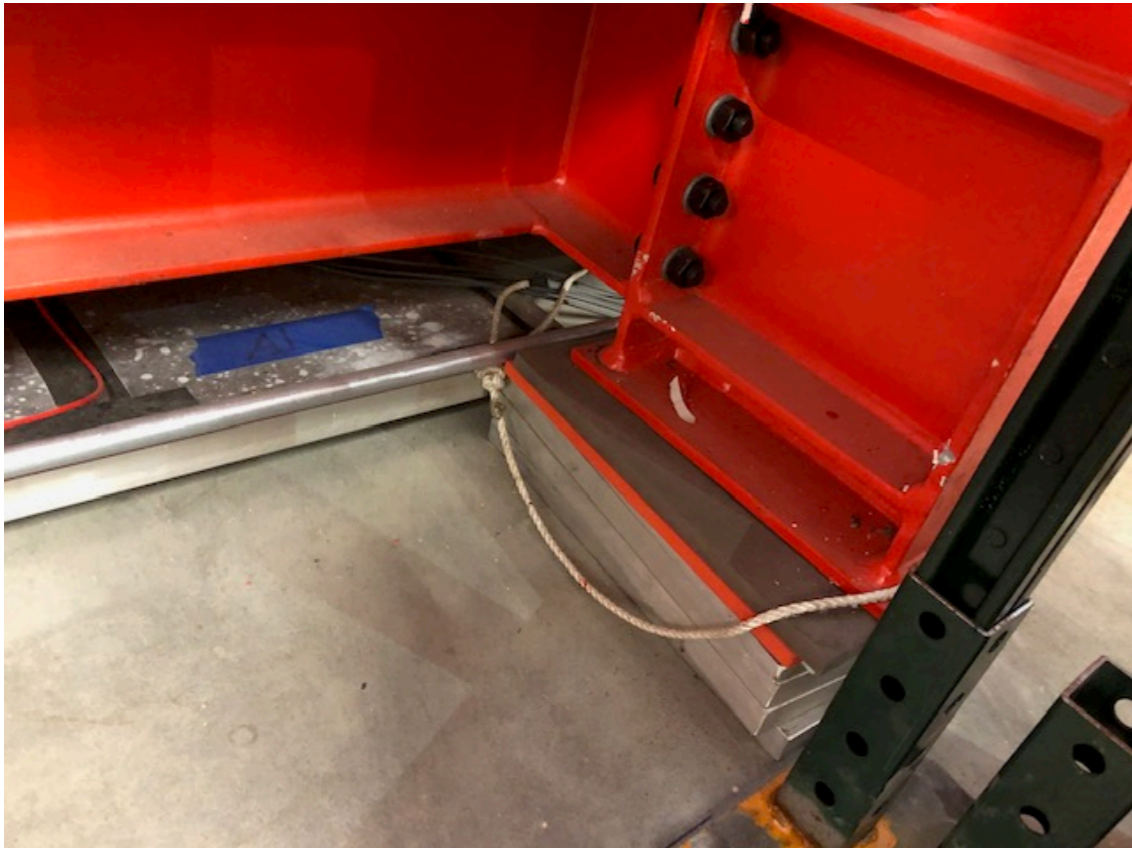
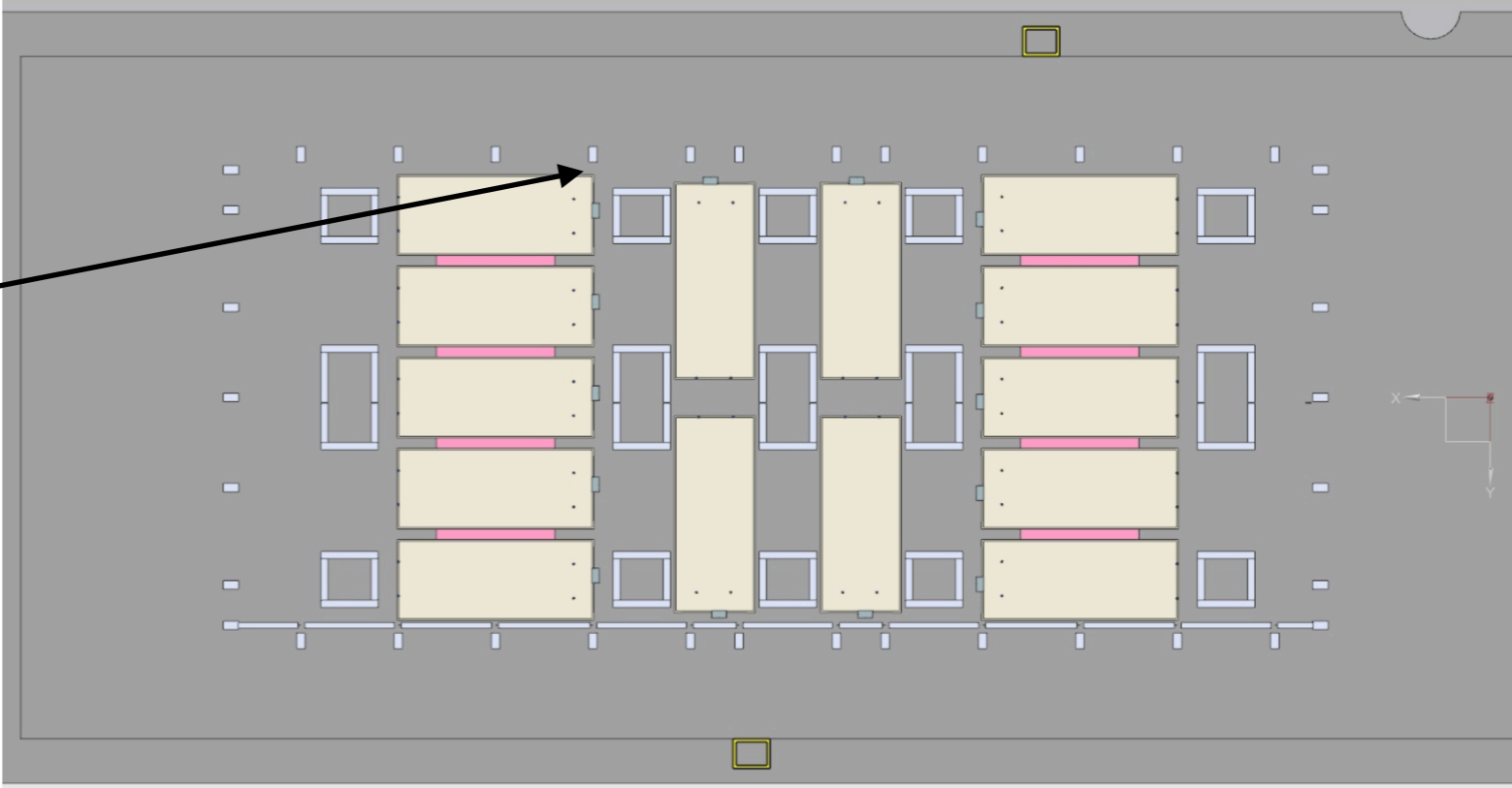


Board Inspection at East Side

We inspected two boards at the East side, both boards has corrosion. Water touched them



Boards on the inside are very difficult to reach

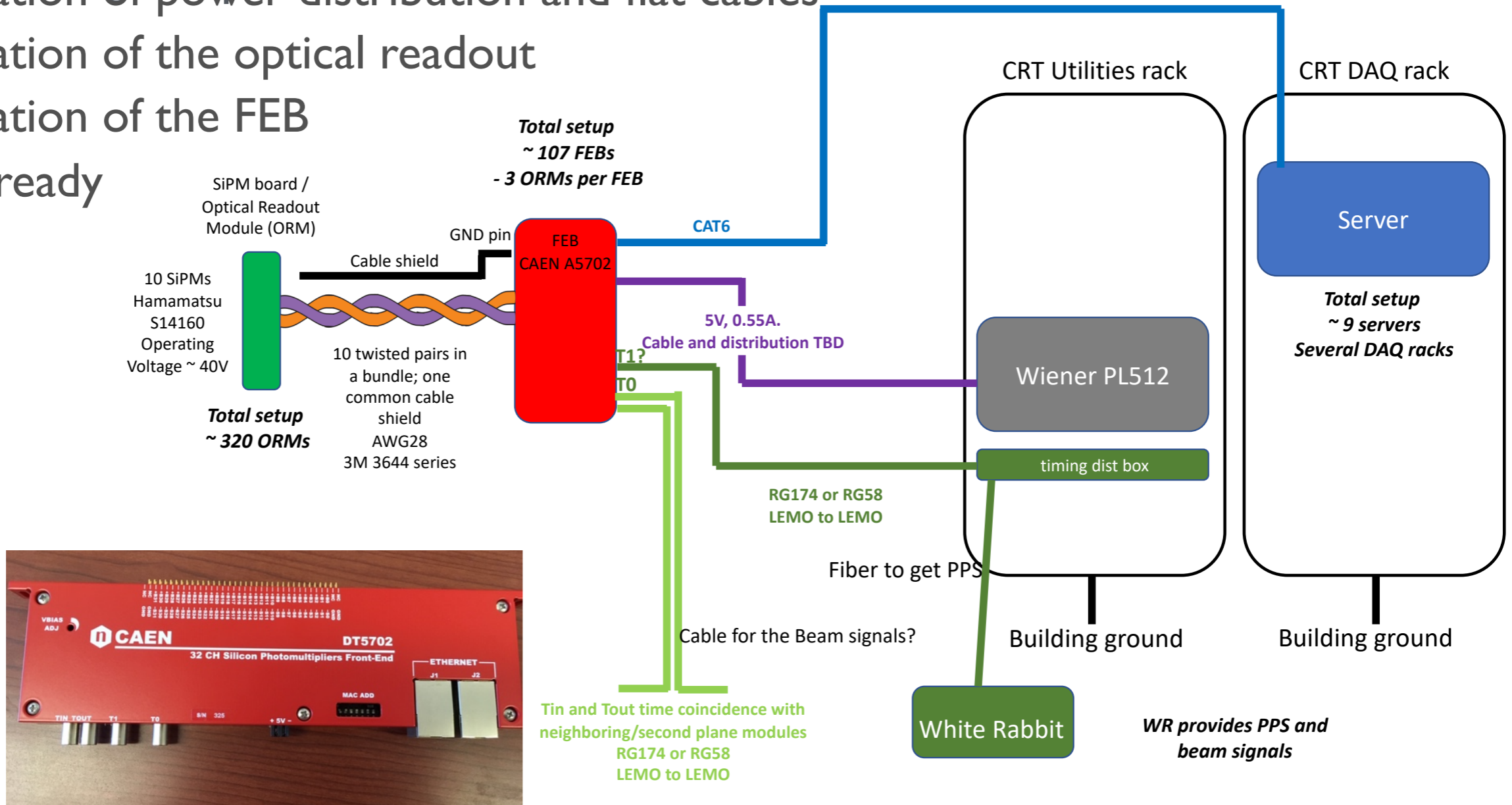


Bottom CRT Plans

- Measure the resistance between center pin and ground at the clock cable (50 ohm)
- If they look good, we will try to power on and check the current drawn
- If the clock is ok
- Check individual boards
 - Make a setup with a spare PMT connected to USB and laptop and then repeat connecting to the USB just one board at the time
- If the boards are ok, we could power on the system
- If there are damage boards, we will need to replace them
- Replace the two accessible boards from the East side
- Cat and I have been exploring the possibility of replacing the boards that have water contact, we have spare boards
 - Schedule TBD, we do not have technician available to move the modules out
- Confirm CRT software will work on the server
 - Have software working with artdaq

Commissioning with the North Wall side CRT

- What do we need?
 - Review the custom designed equipment
 - Utility and server racks
 - Installation of the T1, T0 and server cables
 - Need cable support design
 - Installation of power distribution and flat cables
 - Installation of the optical readout
 - Installation of the FEB
 - DAQ ready



Ongoing Activities

- Several activities at the test stand at Wideband, including the cutting and polishing of the modules needed for the side CRT south wall
- Preparing the rack
- Preparing documentation for the custom designed equipment
- We have been discussing the possibility to install one or two FEB at the north wall to test the white rabbit and DAQ
- We would like to install the readout and test the DAQ at the north wall before the filling of the detector

Partial side CRT Installation

- We need to install the CRT support for the rolling side CRT (East and West)
 - Install unit strut, install aluminum plates, install rolling parts, put post on the rolling parts
 - Waiting for parts to complete the unit strut installation
- Partial installation of some modules at East and West side
- Include the installation of the electronics

