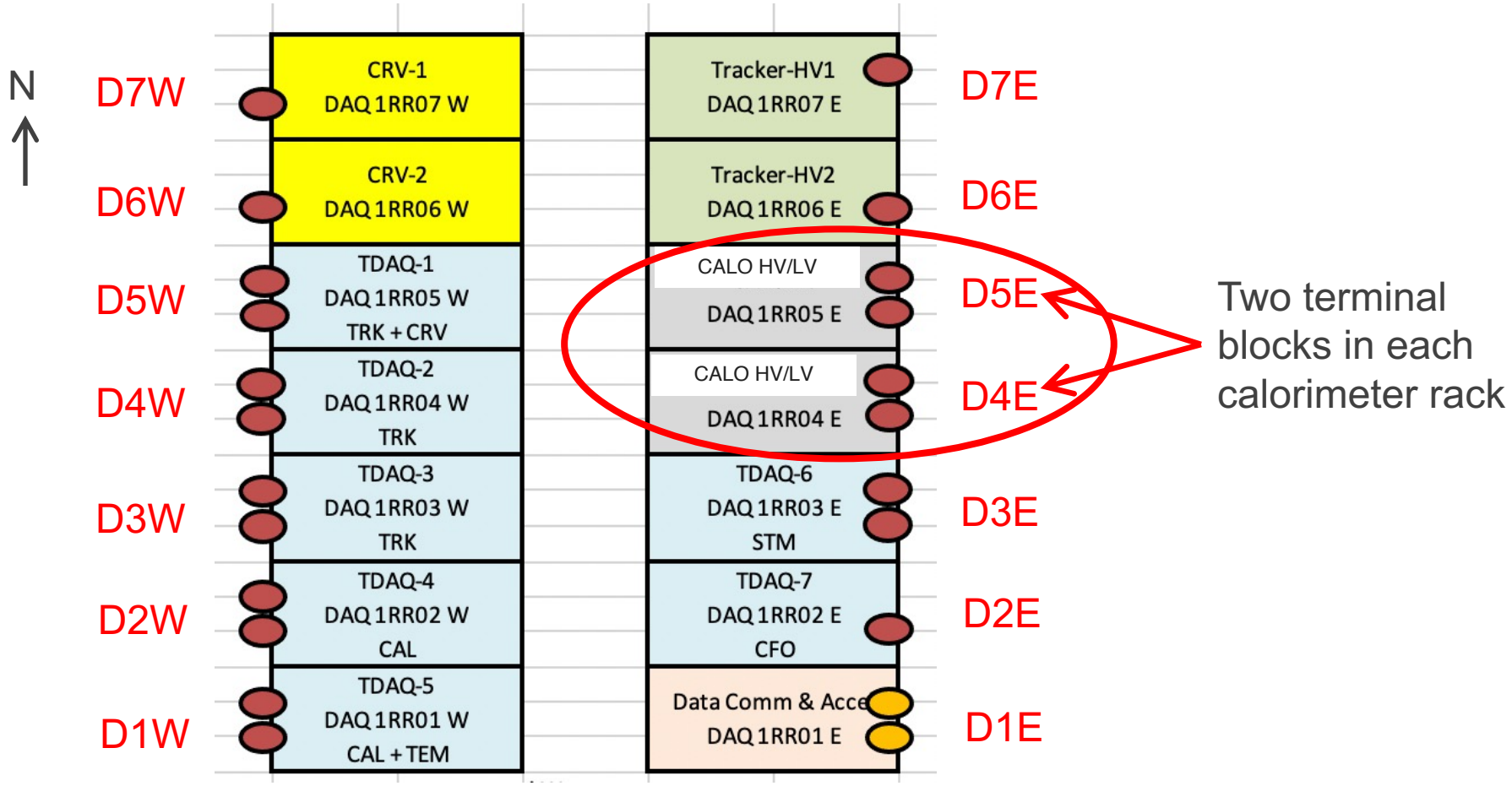
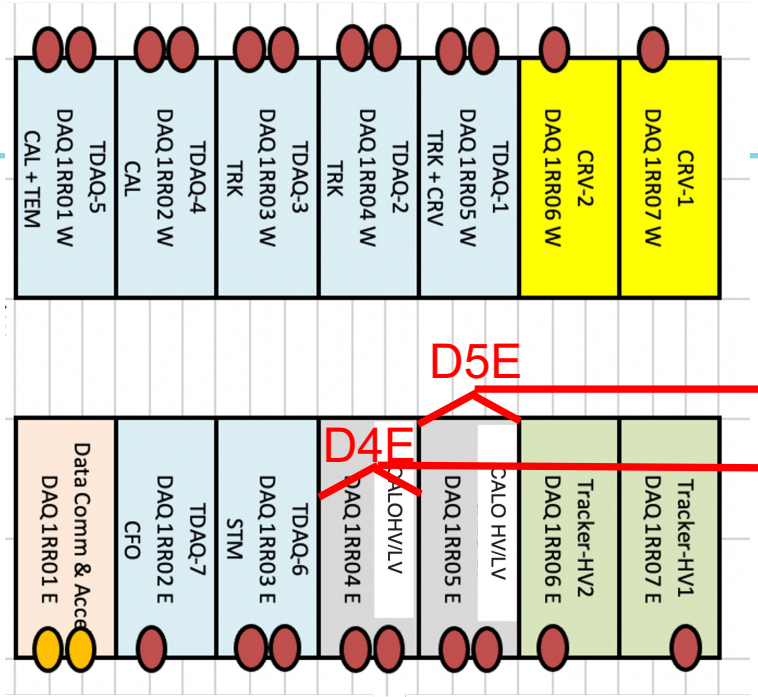
# Electrical services starting point: racks in DAQ room




From DOCDB - 40499-v3



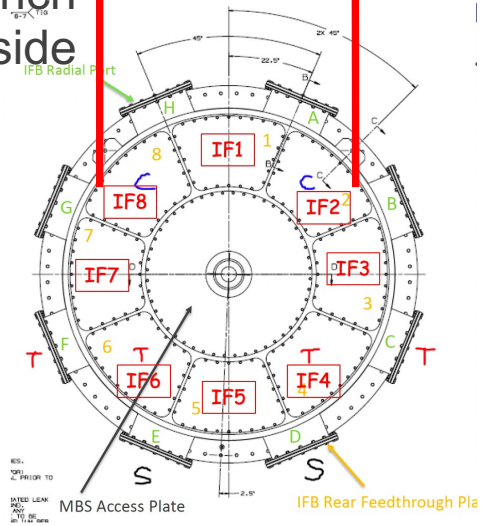

DAQ room relay racks

In electrical alcove, cables go into trenches

Lower tray in cross trench

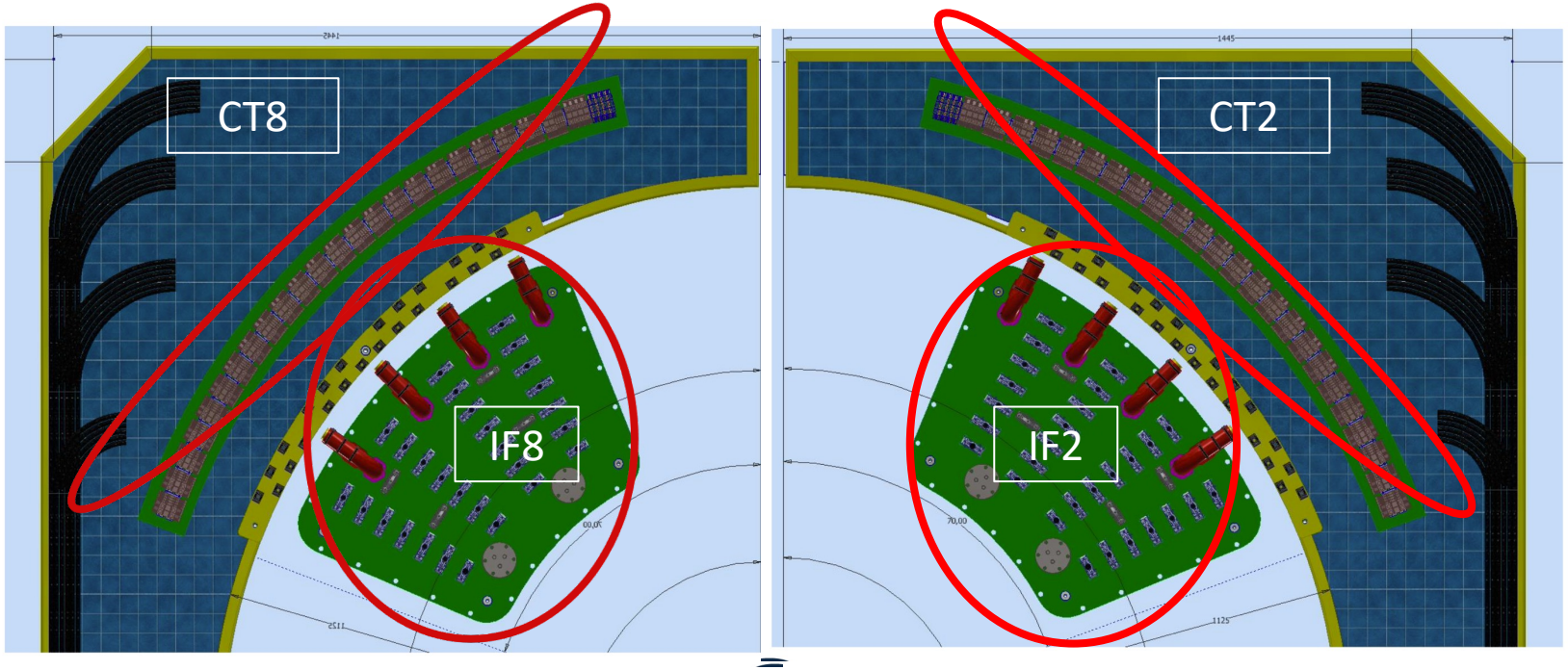
DS trench South-side

DS trench North-side

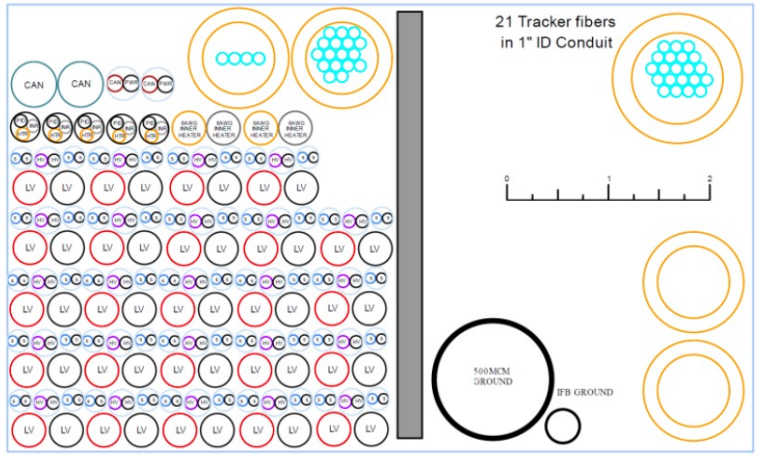


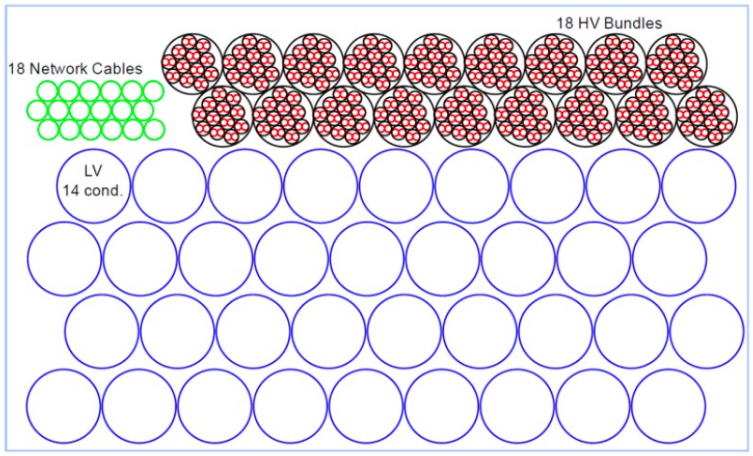

31/01/24

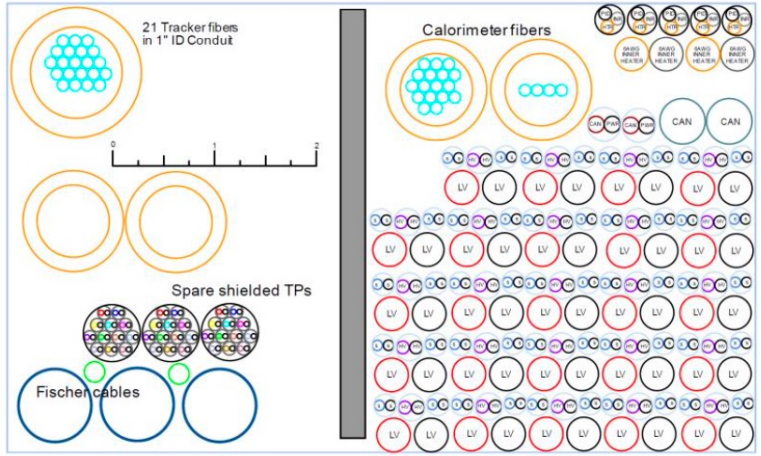
# Calorimeter IFB distribution




- **CT[2,8]:** electrical services cables land at a Calorimeter Terminal block on the outside of the IFB
- **IF[2,8]:** Then, there is a short cable between the terminal block and the IFB Feedthrough…
- **CPPd[0,1]:** Then, on the INSIDE of the IFB there are two Calorimeter Patch Panels per side
  - On each side (i.e., both for p=0 and for p=1), there is one patch panel serving disk 0 and one patch panel serving disk 1

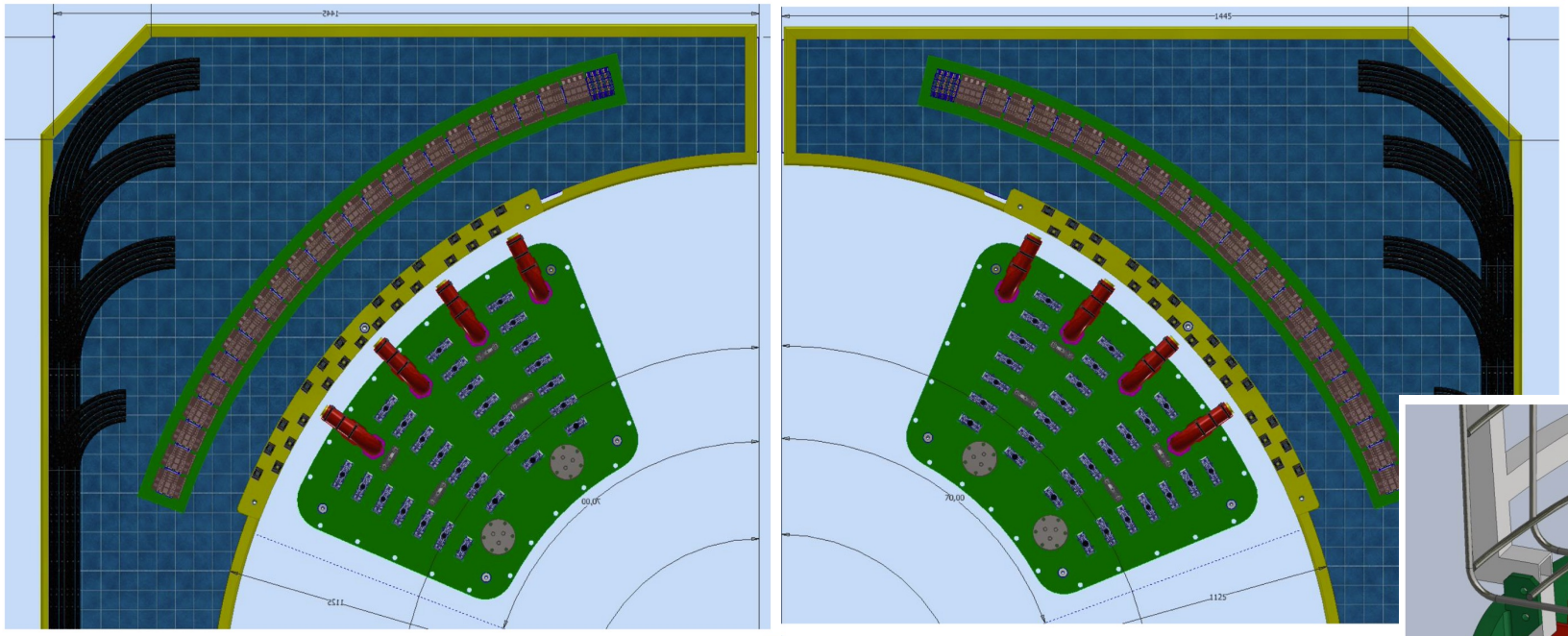


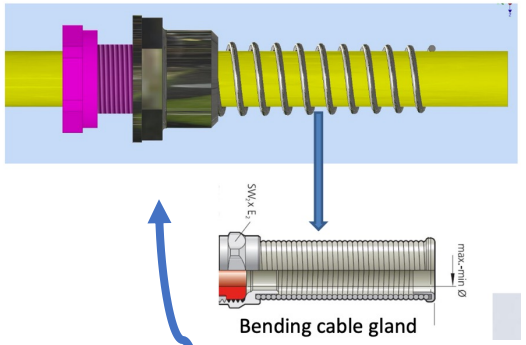



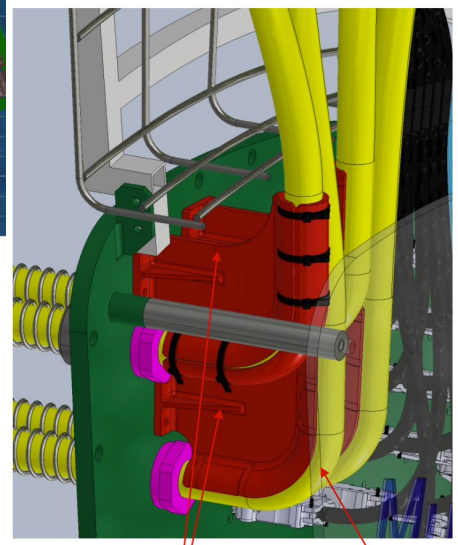



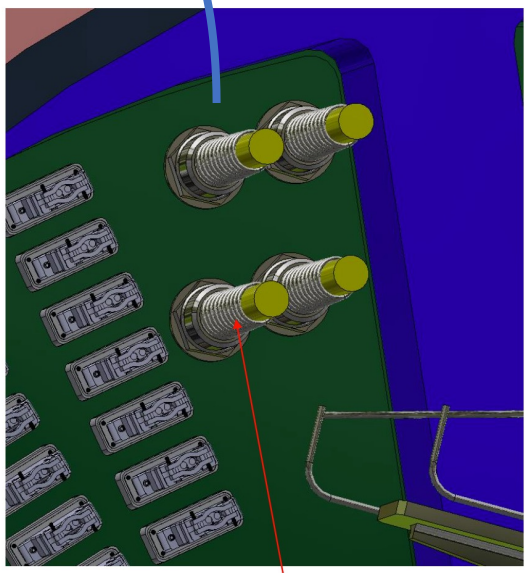

Revised to have less tight packing but filling up the section vertically. Circles are to scale and based on the data sheets of the cables. The north and south sections are mostly Calorimeter; the center section is Tracker.

# TDAQ fibers distribution: IFB

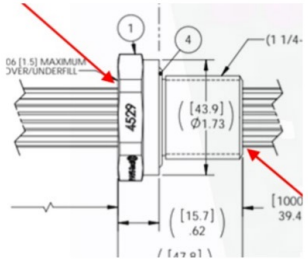






- Pavetech feed-thrus
  → 4 MCP-12



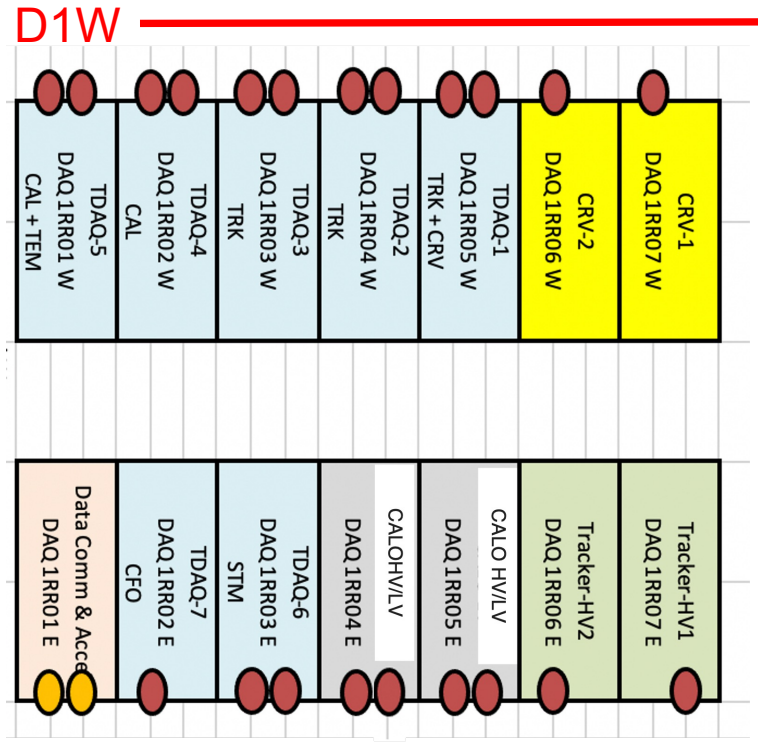
16 MCP IFB8 + 16 MCP IFB2
\+ \+
1 spare 1 spare
not connected

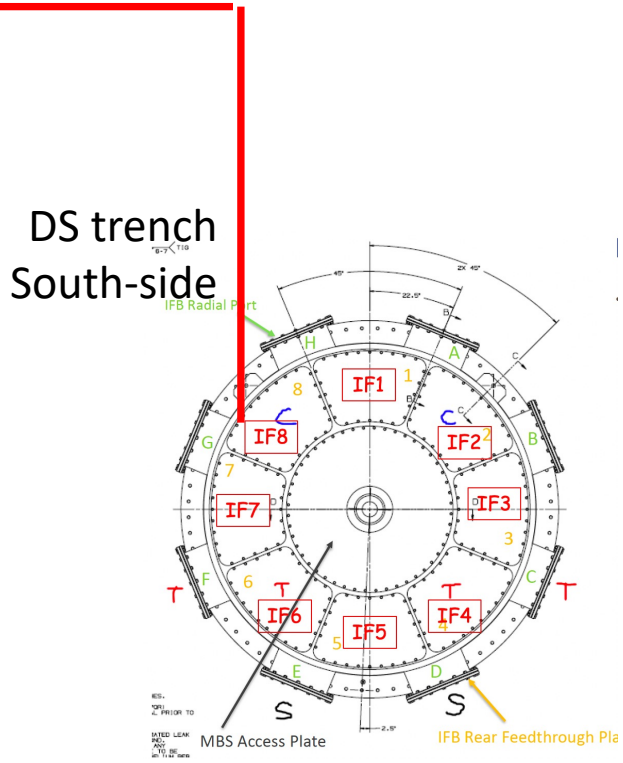
TDAQ fiber supports (front side)

Bending radius = 50 mm

Bending cable gland (back side)

# Fiber Labeling




**Fiber1**
D1W d1-p0-c2-f1
CT8 d1-p0-c2-f1

**Fiber2**
D1W d1-p0-c2-f2
CT8 d1-p0-c2-f2

**Fiber3**
D1W d1-p0-c2-f3
CT8 d1-p0-c2-f3

**Fiber4**
D1W d1-p0-c2-f4
CT8 d1-p0-c2-f4

**Fiber5**
D1W d1-p0-c2-f5
CT8 d1-p0-c2-f5

**Fiber6**
D1W d1-p0-c2-f6
CT8 d1-p0-c2-f6

**Fiber7**
D1W d1-p0-c2-f7
CT8 d1-p0-c2-f7

**Fiber8**
D1W d1-p0-c2-spare
CT8 d1-p0-c2-spare

**Fiber9**
D1W d0-p0-c2-f1
CT8 d0-p0-c2-f1

**Fiber10**
D1W d0-p0-c2-f2
CT8 d0-p0-c2-f2

**Fiber11**
D1W d0-p0-c2-f3
CT8 d0-p0-c2-f3

**Fiber12**
D1W d0-p0-c2-f4
CT8 d0-p0-c2-f4

**Fiber13**
D1W d0-p0-c2-f5
CT8 d0-p0-c2-f5

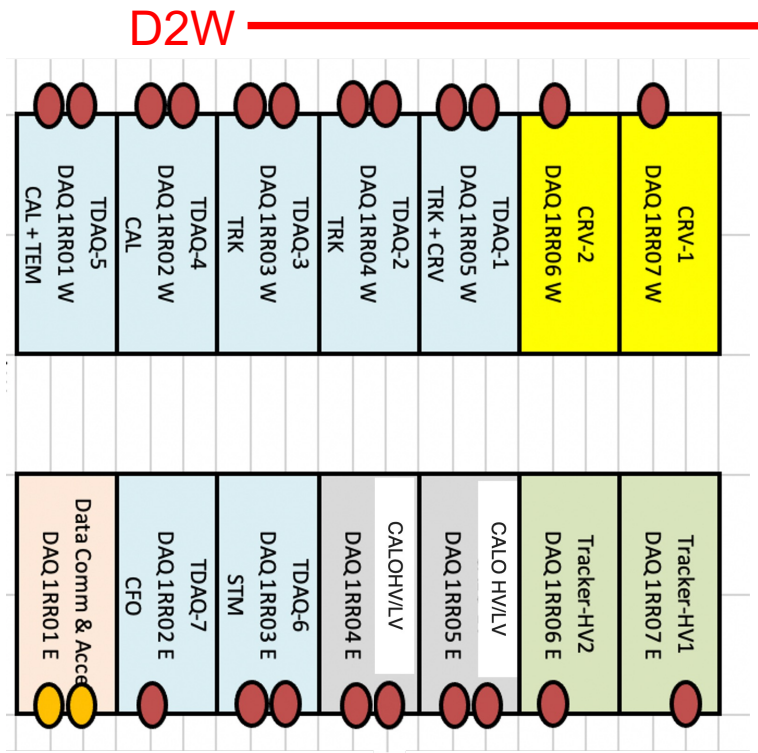
**Fiber14**
D1W d0-p0-c2-f6
CT8 d0-p0-c2-f6

**Fiber15**
D1W d0-p0-c2-f7
CT8 d0-p0-c2-f7

**Fiber16**
D1W d0-p0-c2-spare
CT8 d0-p0-c2-spare

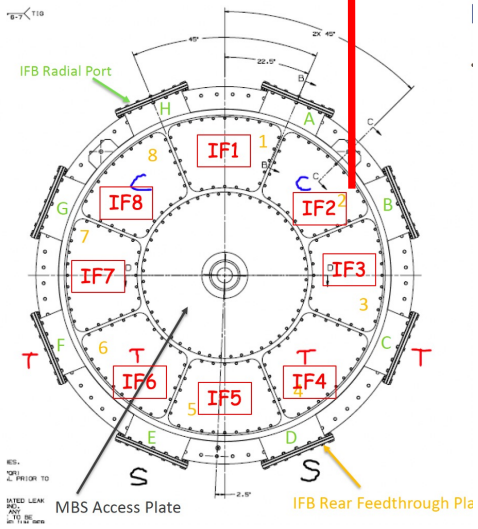
**Fiber17**
D1W spare
CT8 spare

# Fiber Labeling




DAQ room relay racks

DS trench
North-side




**Fiber1**
D2W d1-p1-c2-f1
CT2 d1-p1-c2-f1

**Fiber2**
D2W d1-p1-c2-f2
CT2 d1-p1-c2-f2

**Fiber3**
D2W d1-p1-c2-f3
CT2 d1-p1-c2-f3

**Fiber4**
D2W d1-p1-c2-f4
CT2 d1-p1-c2-f4

**Fiber5**
D2W d1-p1-c2-f5
CT2 d1-p1-c2-f5

**Fiber6**
D2W d1-p1-c2-f6
CT2 d1-p1-c2-f6

**Fiber7**
D2W d1-p1-c2-f7
CT2 d1-p1-c2-f7

**Fiber8**
D2W d1-p1-c2-spare
CT2 d1-p1-c2-spare

**Fiber9**
D2W d0-p1-c2-f1
CT2 d0-p1-c2-f1

**Fiber10**
D2W d0-p1-c2-f2
CT2 d0-p1-c2-f2

**Fiber11**
D2W d0-p1-c2-f3
CT2 d0-p1-c2-f3

**Fiber12**
D2W d0-p1-c2-f4
CT2 d0-p1-c2-f4

**Fiber13**
D2W d0-p1-c2-f5
CT2 d0-p1-c2-f5

**Fiber14**
D2W d0-p1-c2-f6
CT2 d0-p1-c2-f6

**Fiber15**
D2W d0-p1-c2-f7
CT2 d0-p1-c2-f7

**Fiber16**
D2W d0-p1-c2-spare
CT2 d0-p1-c2-spare

**Fiber17**
D2W spare
CT2 spare

# A SIDET (APRILE ordini materiali partiti)

Per Stefano D. se mi dimentico ricordami di chiedere l'integrazione di 2.5k su consumi (erano spese non previste)

1) Creare 4 prolunghe HV + 4 prolunghe LV a parre da ciascun distributore primario che arrivano sulla passerella, a metà percorso tra i due calorimetri.

Ciascuna prolunga sarà terminata con connetore maschio che potrà accoppiarsi con un corrispondente connetore femmina collegato tramite morseera in casseta di derivazione ai cavi provenien dagli alimentatori.
**In questo modo sarà possibile alimentare mezzo disco alla volta per eseguire futuri test.**

2) L'attuale interconnessione al distributore secondario per ciascuna linea LV tramite i AWG12 non è risultata idonea per via della loro scarsa flessibilità: è sufficiente spostarli di poco per produrre torsioni ai reofori dei connettori saldati sul distributore, molto sensibili alla fatica meccanica, come mostrato in fotografia. Per ovviare al problema si suggerisce di terminare le linee LV sui connettori del distributore secondario con prolunghe di 30-50 cm con cavo di sezione AWG16 dello stesso tipo, da collegare agli AWG 12 tramite morsetti "mammut" da fissare sulla struttura meccanica o tramite altro tipo di connessione. La caduta di tensione su una prolunga così breve sarà trascurabile mentre il collegamento risulterà più flessibile e quindi non favorirà il danneggiamento dei connettori da PCB (quelli già torti andranno sostituiti).