Detector Hall Issues

Progress of the DH design after TDR

ILC Tokusui Workshop 2015

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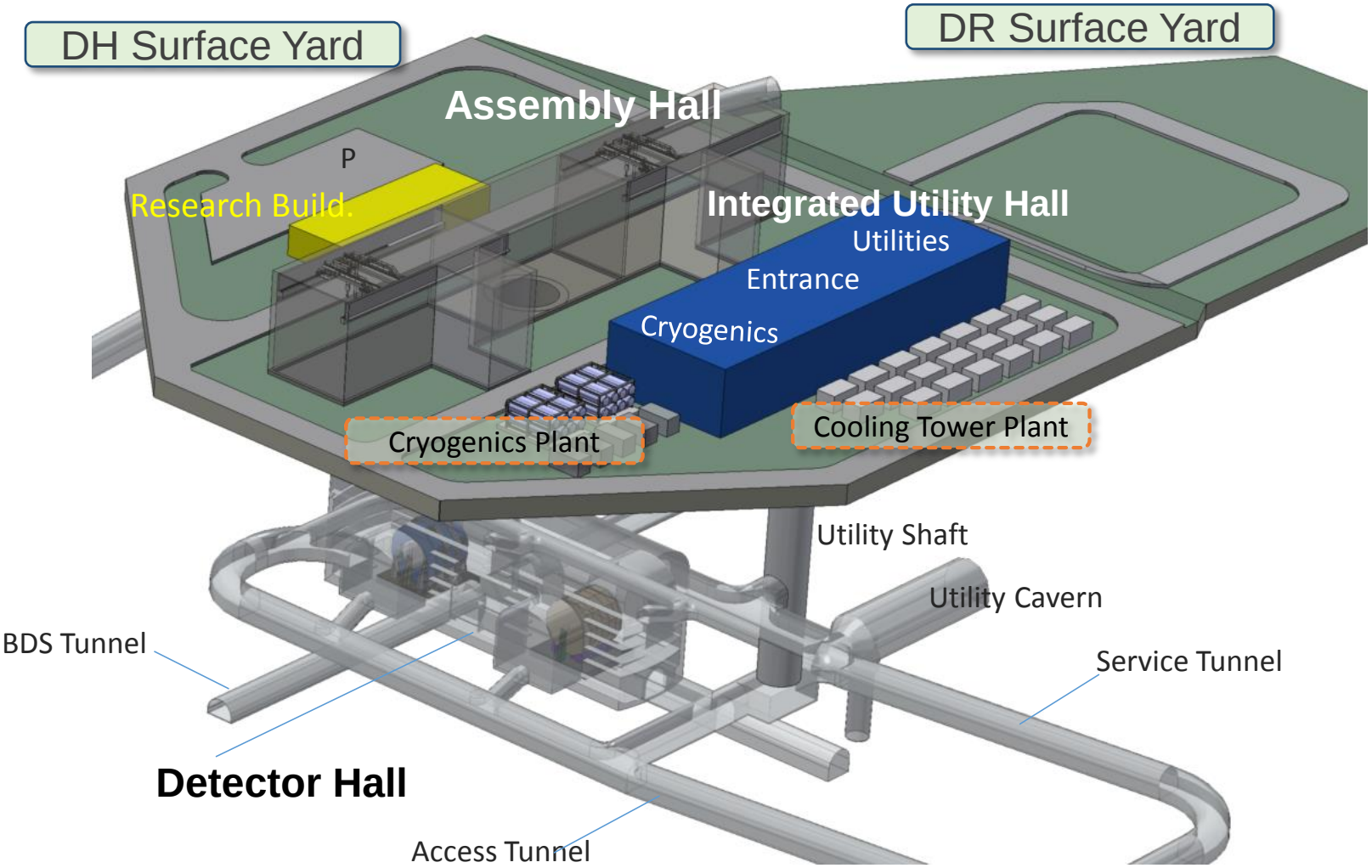
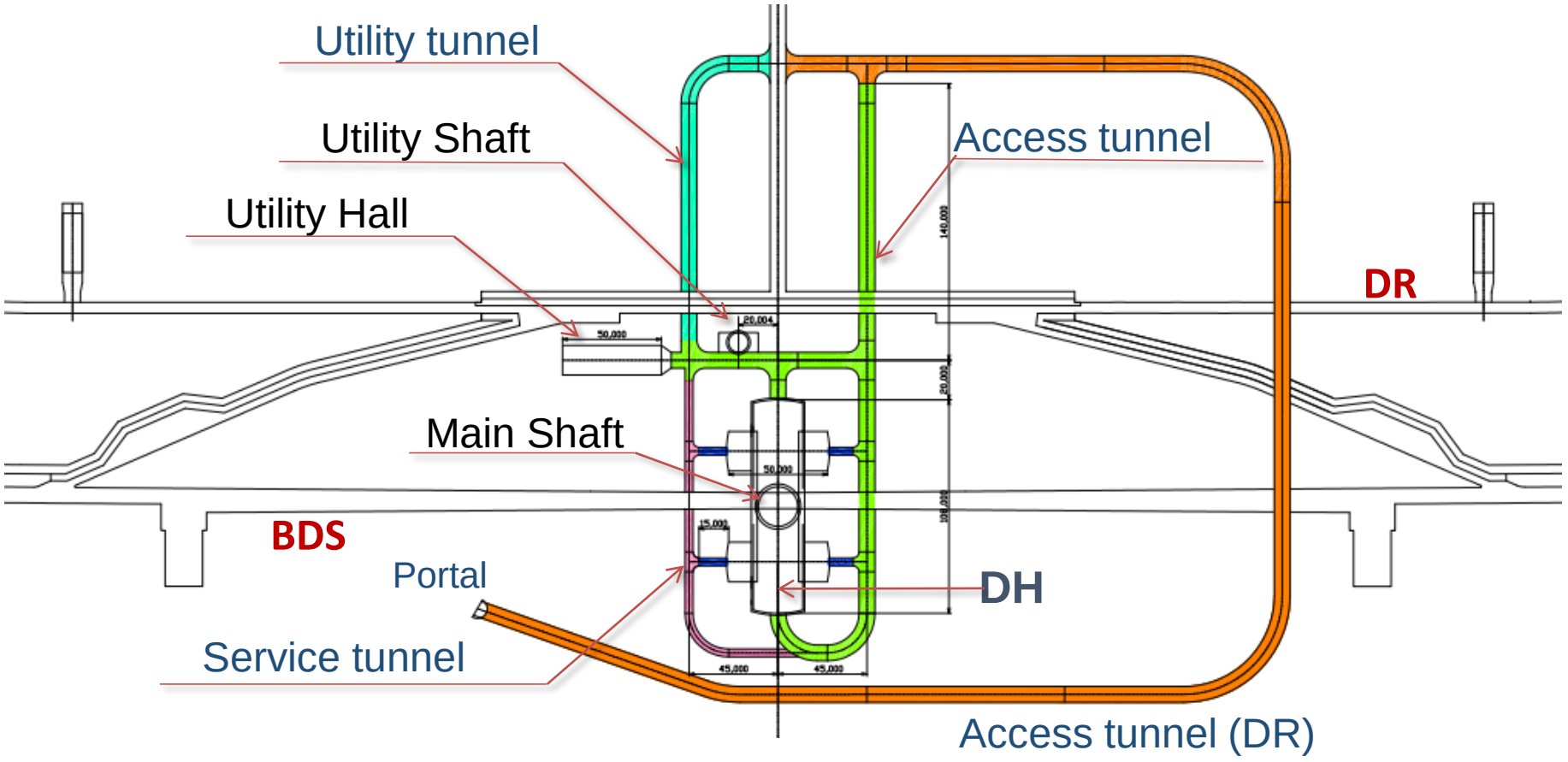
Overall Facilities of the DH Region

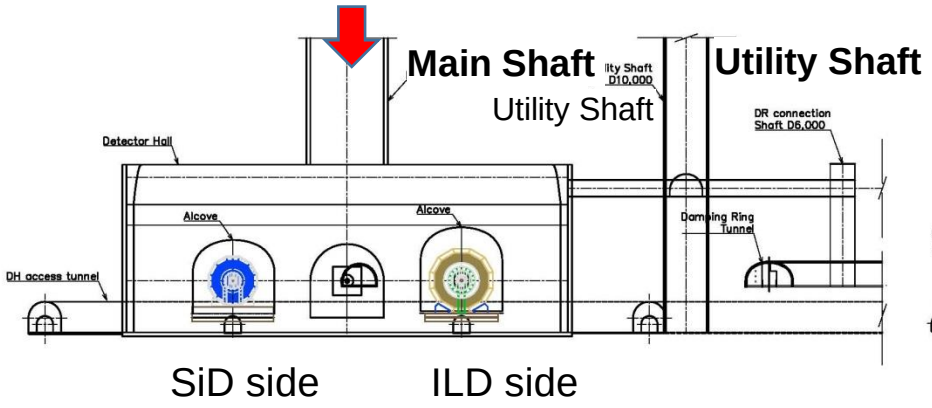


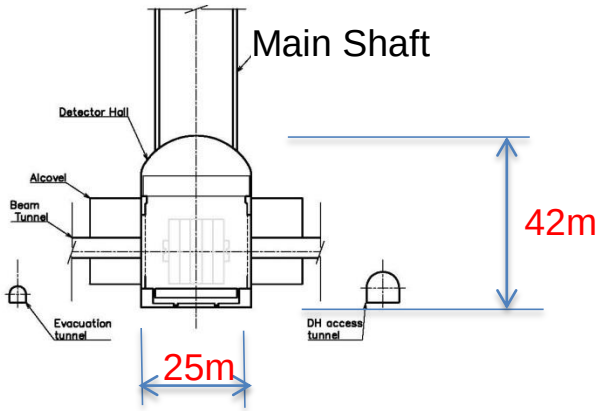
I Current Design of Detector Hall

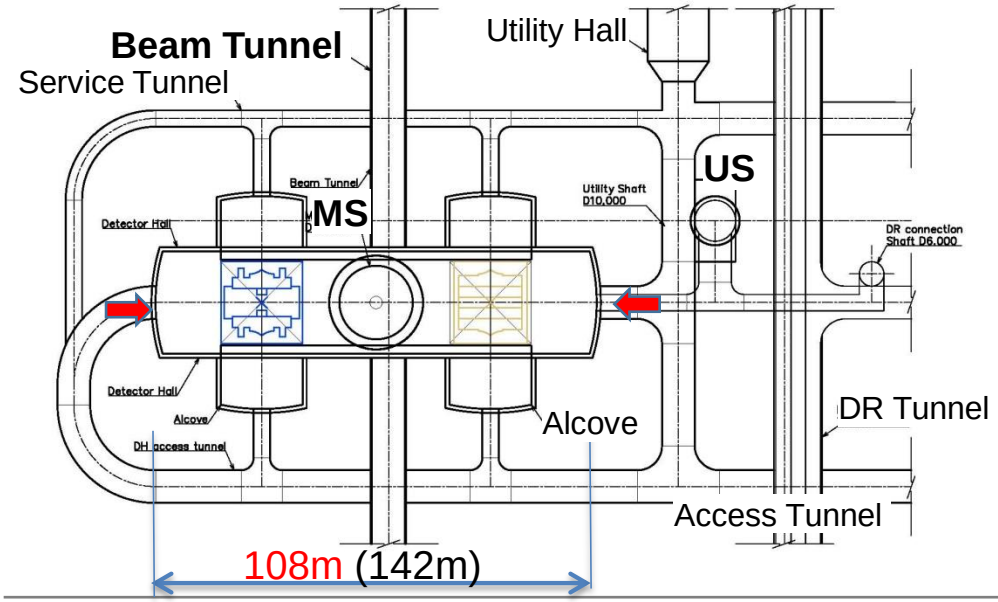
Arrangement of the Underground Facilities



Current Design of Detector Hall



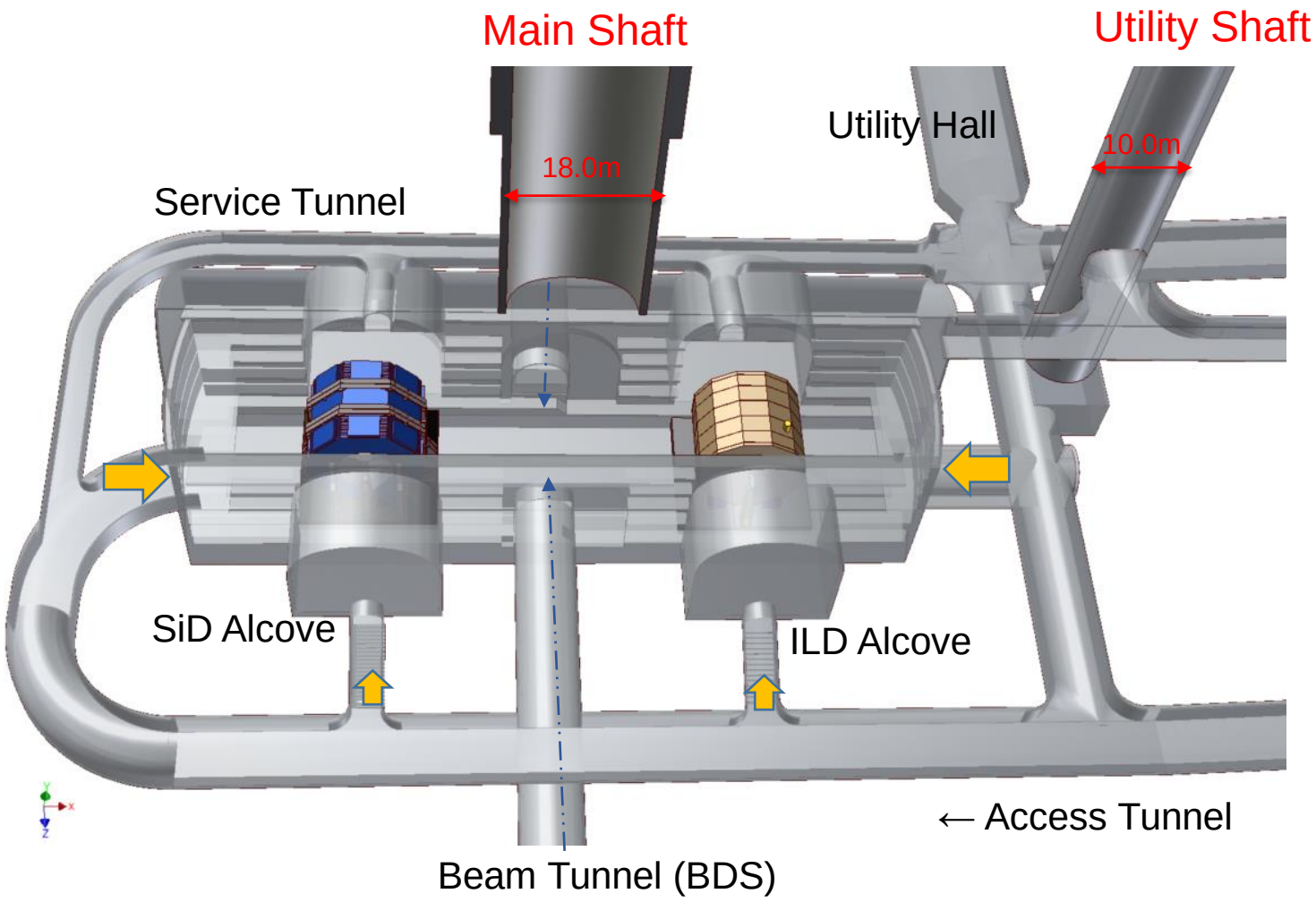




Structural Features

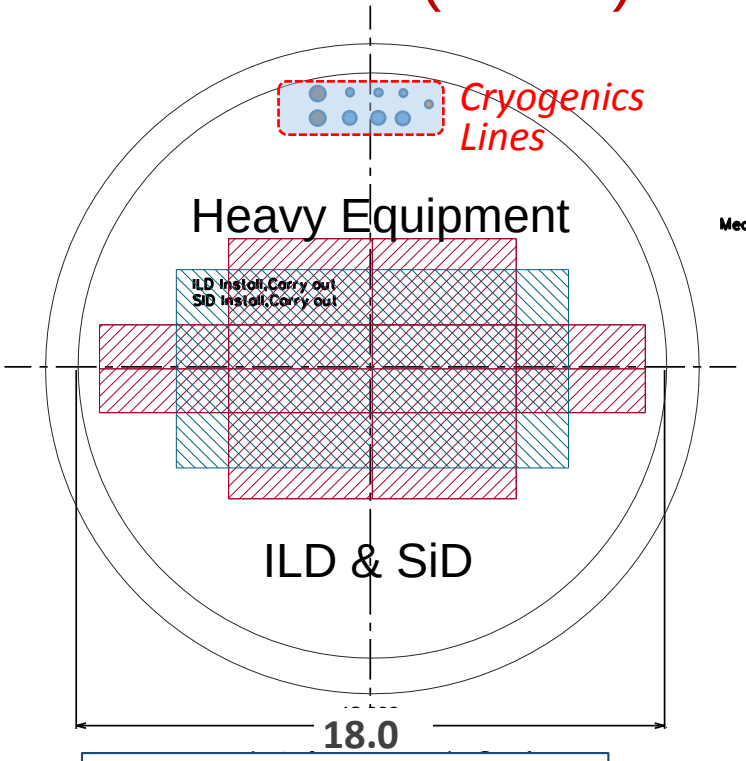
- Main shaft locates IR position.
- DH length reduction:
  108m from 142m (TDR)
- Personnel entrance way is Elevator installed in UT shaft
- Access tunnels connect at the both end of DH

Detector Hall and two Vertical Shafts



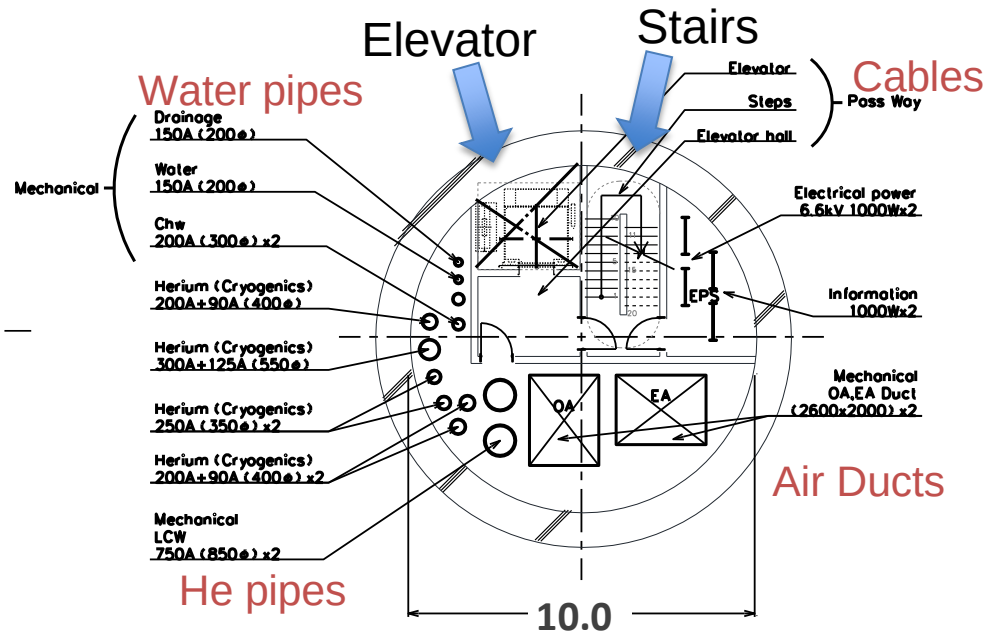
Two Vertical Shafts

Main Shaft (D18m)



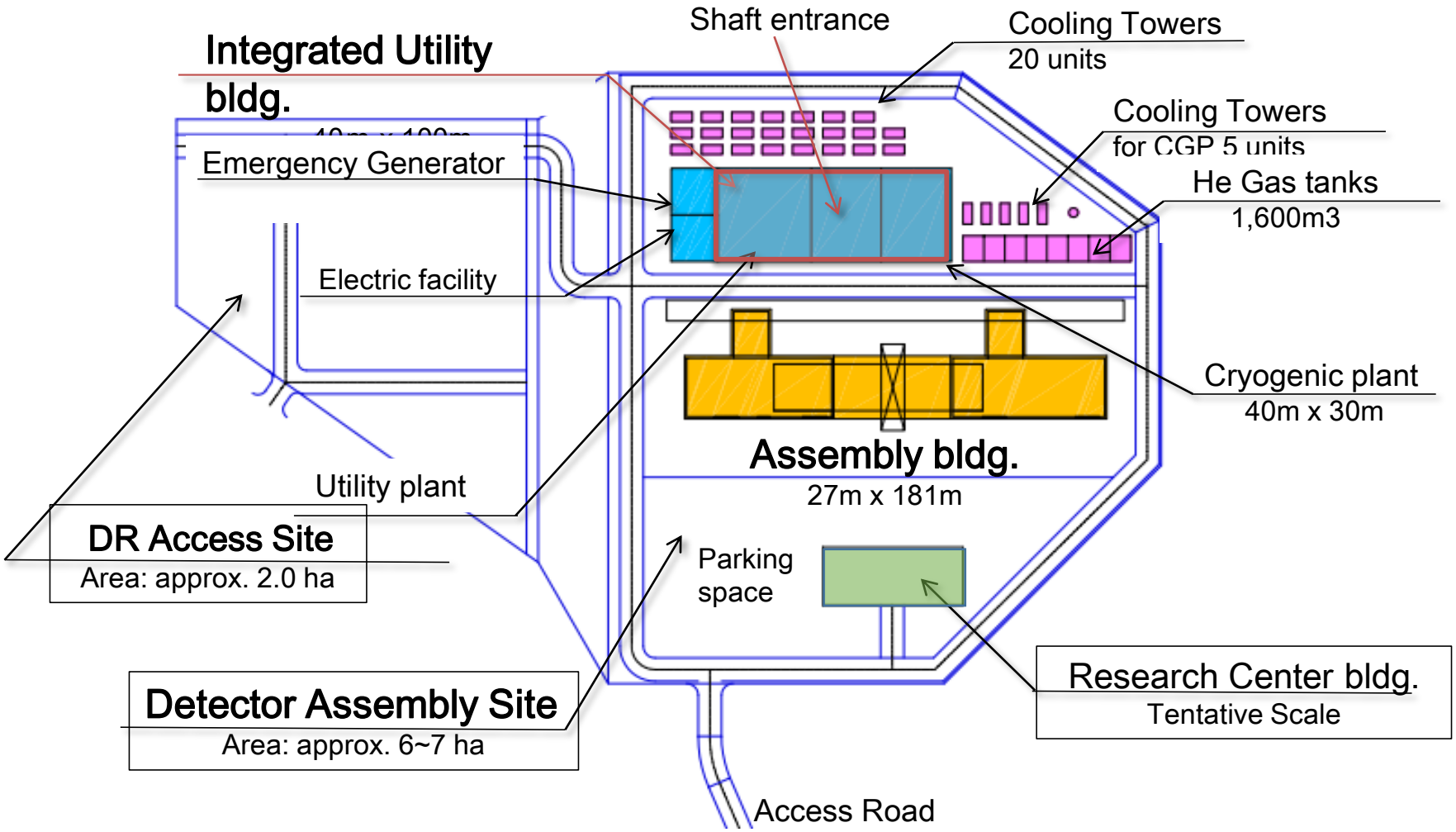
- **Main shaft D=18m**
- Center of DH
- Detectors Installation

Utility Shaft (D10m)



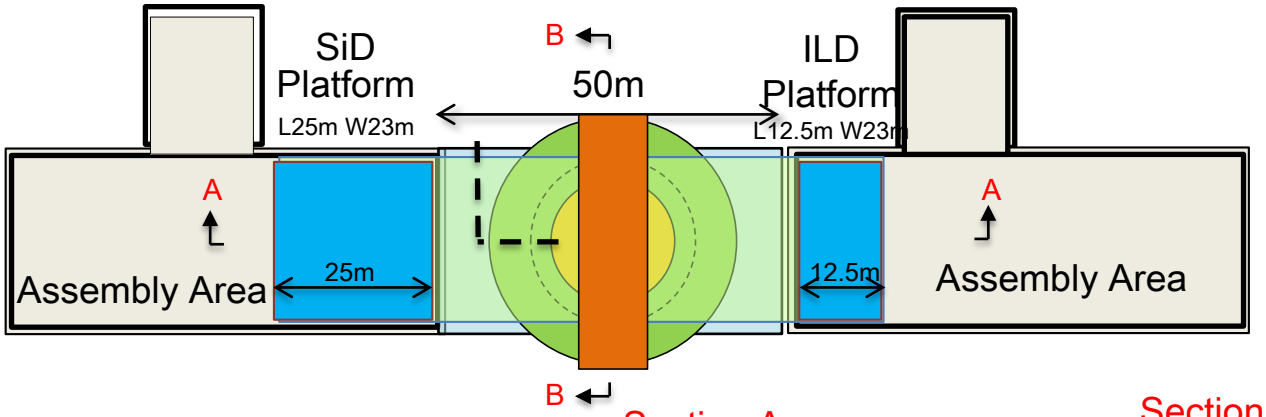
Utility shaft D=10m
- Utility lines: Pipes, ducts, cables
- Personnel access to Detector Hall by Elevator and Stairs

Ⅱ Surface Yard and Facilities



Assembly Hall and Main Shaft

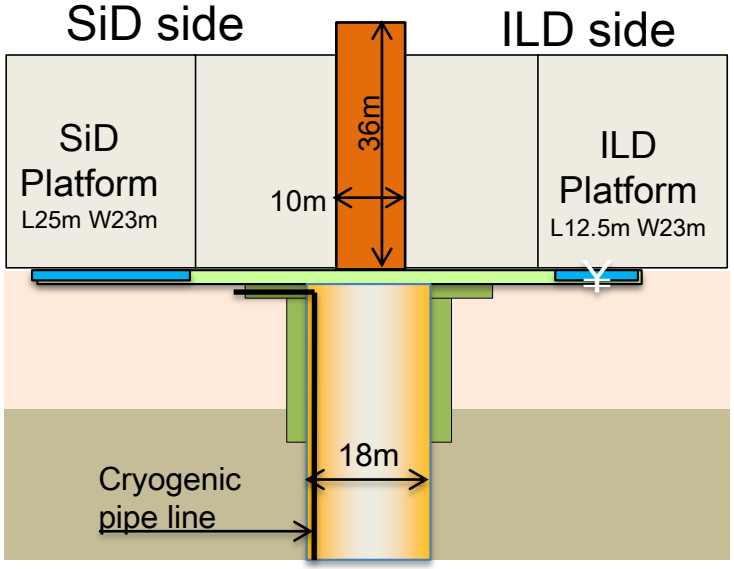
Gantry crane

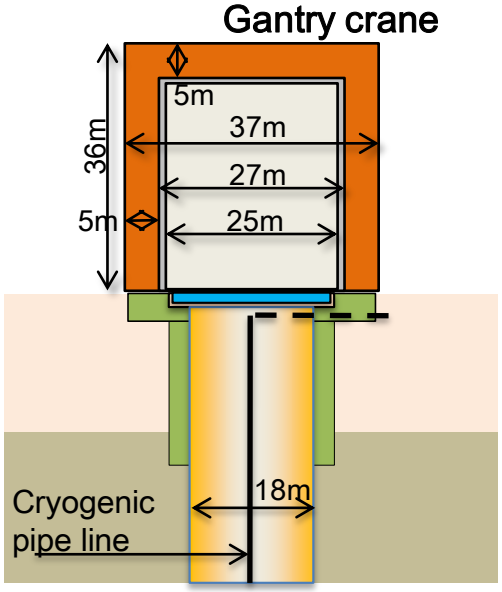


Section A

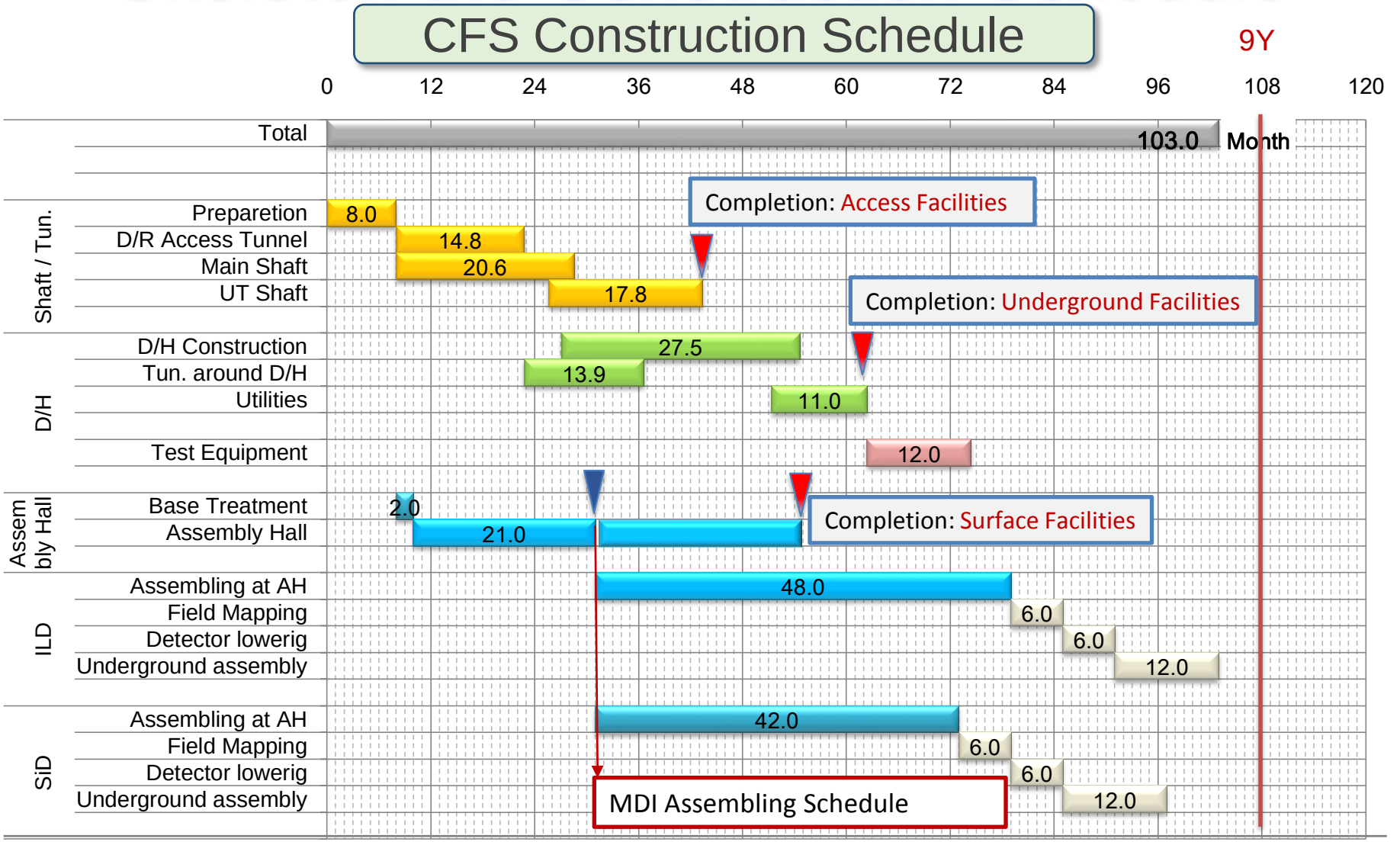
Section B

LHC-CMS Hall





Skeleton the Construction Schedule



Summary

Main Issues toward the Design Phase

- Verification: Geological feature in the Detector Hall area
  - Geological conditions at the Vertical shaft position
- Re-inspection: Requirement of the Experimental Functions
  - Platform structure in the push-pull system
  - Basic concept of the Pacman, Crane, Cryogenics system
  - Vertical Shaft : Utilization form, Diameter, EV size, etc.
- Environmental measures in the DH surface yard:
  - Noise reduction measures
  - Land restriction, Natural Forest conservation
- Coordination between the Installation strategy and the Civil Construction schedule