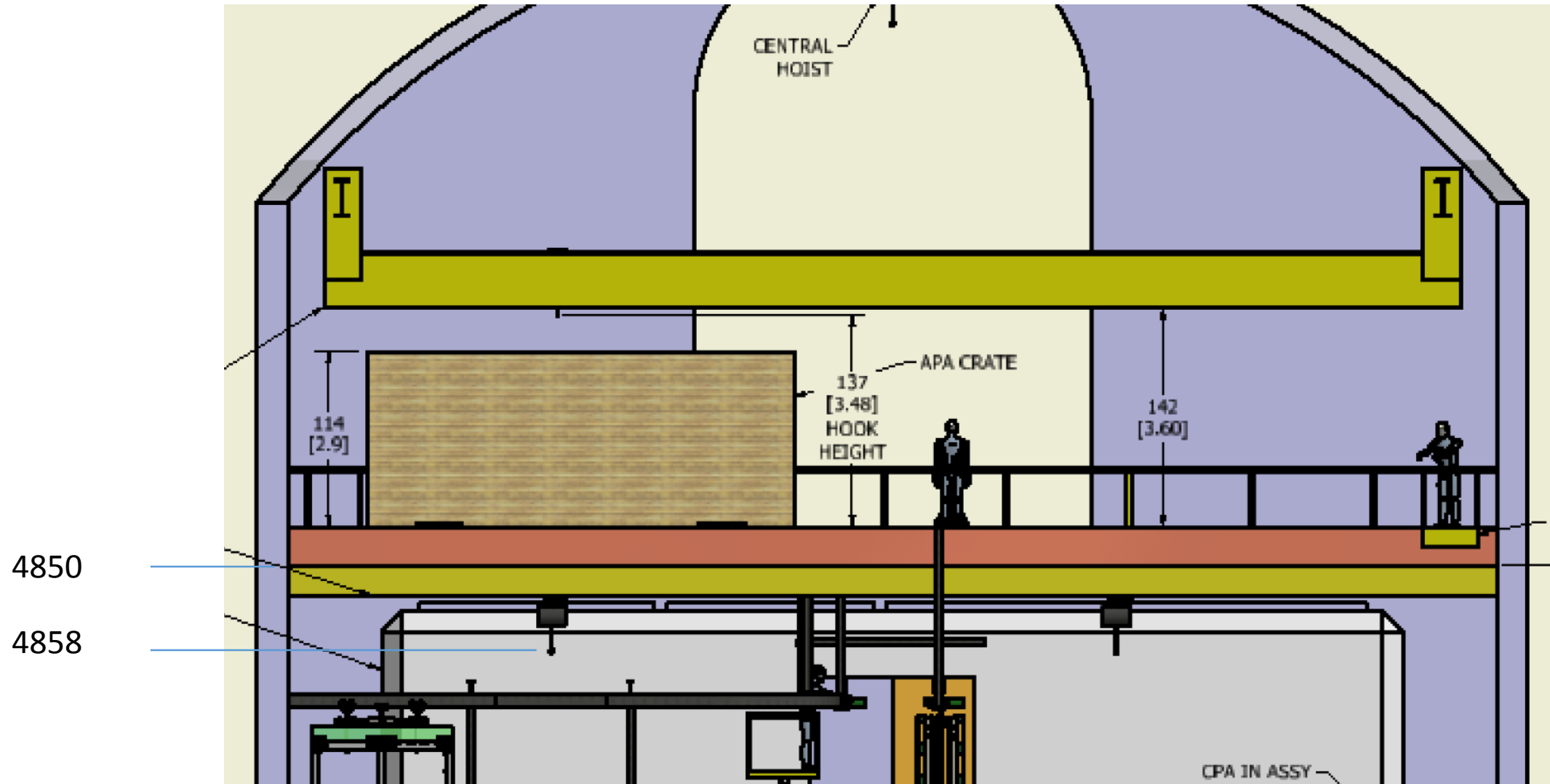


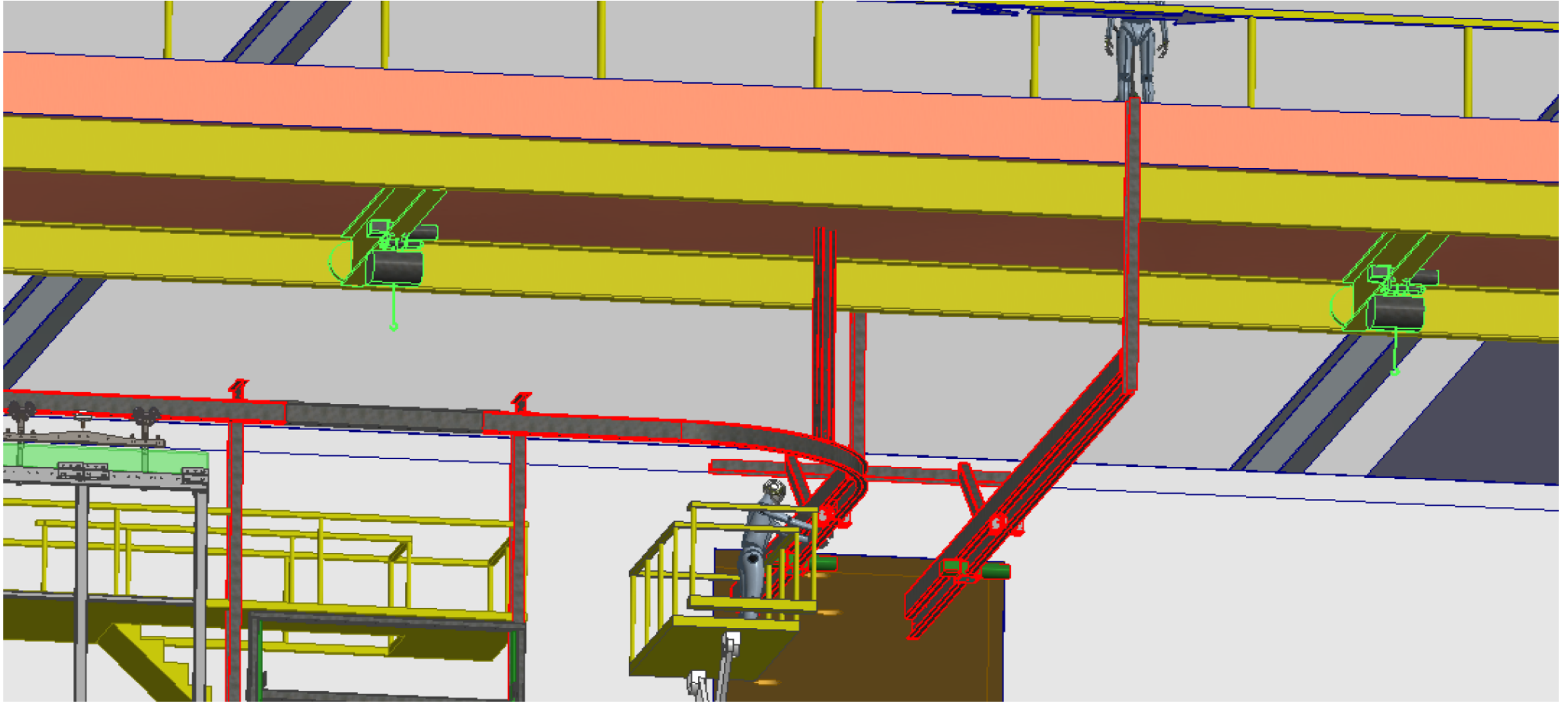
# Bridge, Stairs and Lift

F. Feyzi

# Bridge and crane hook height



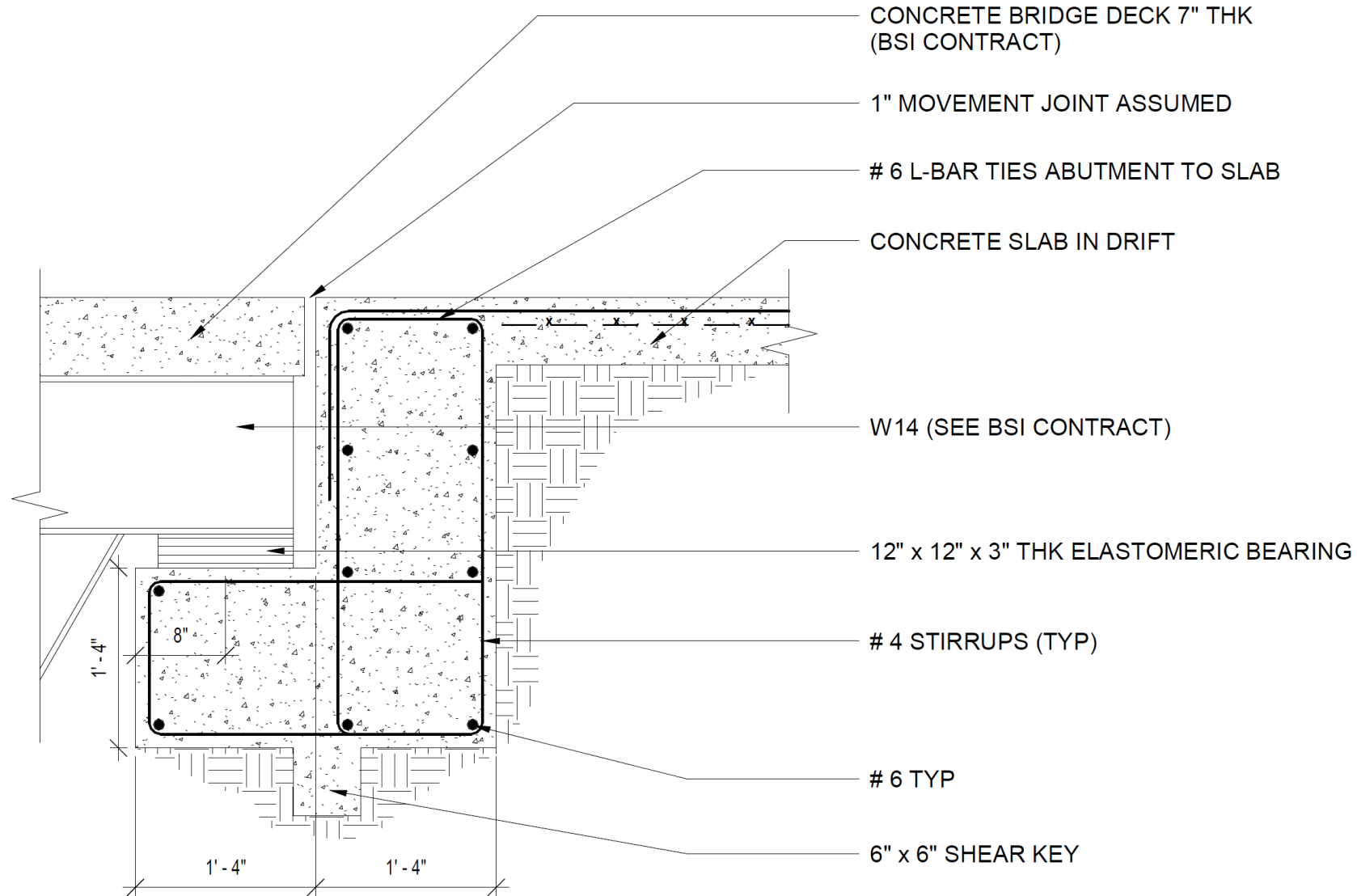
# Cranes under the bridge

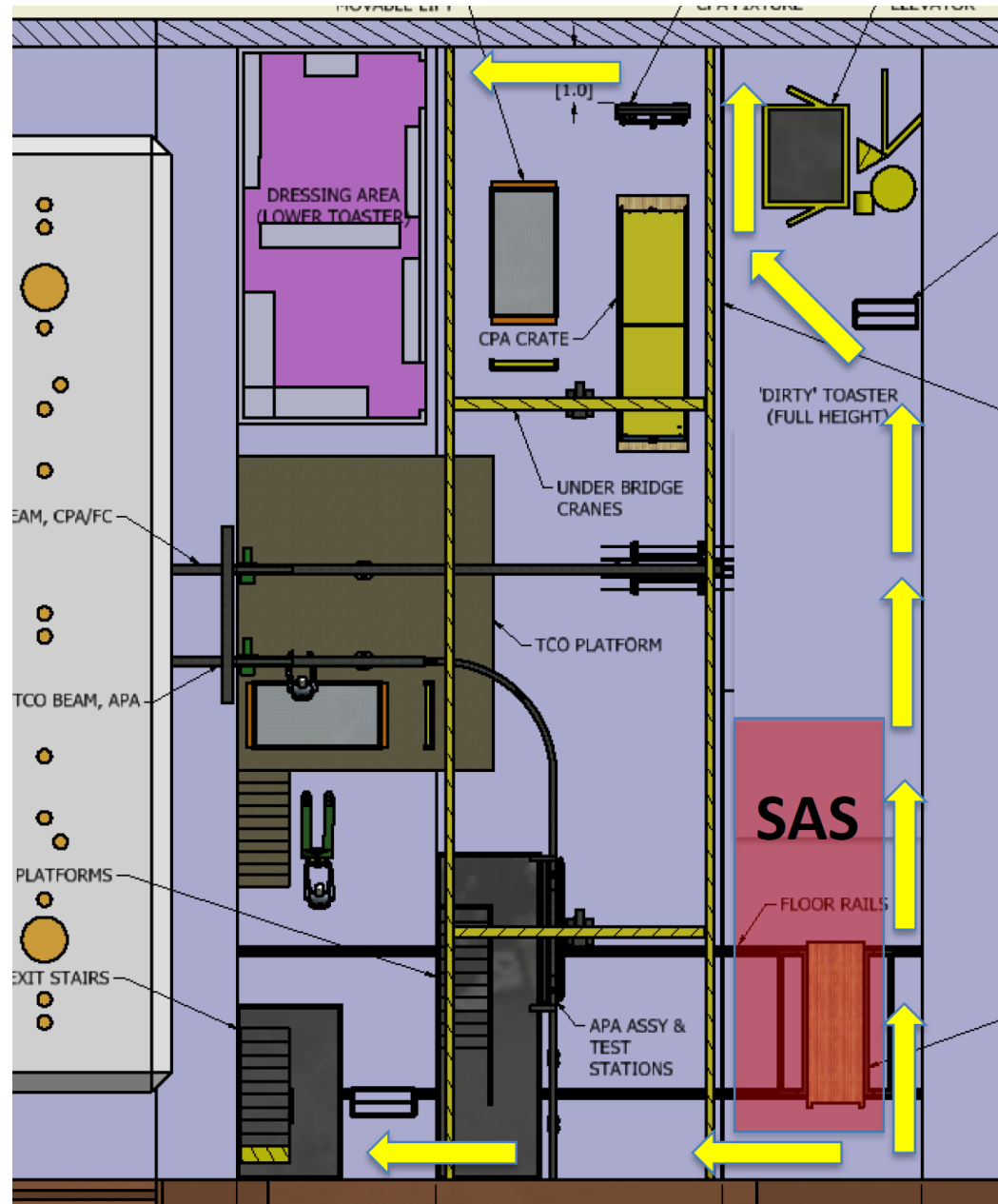


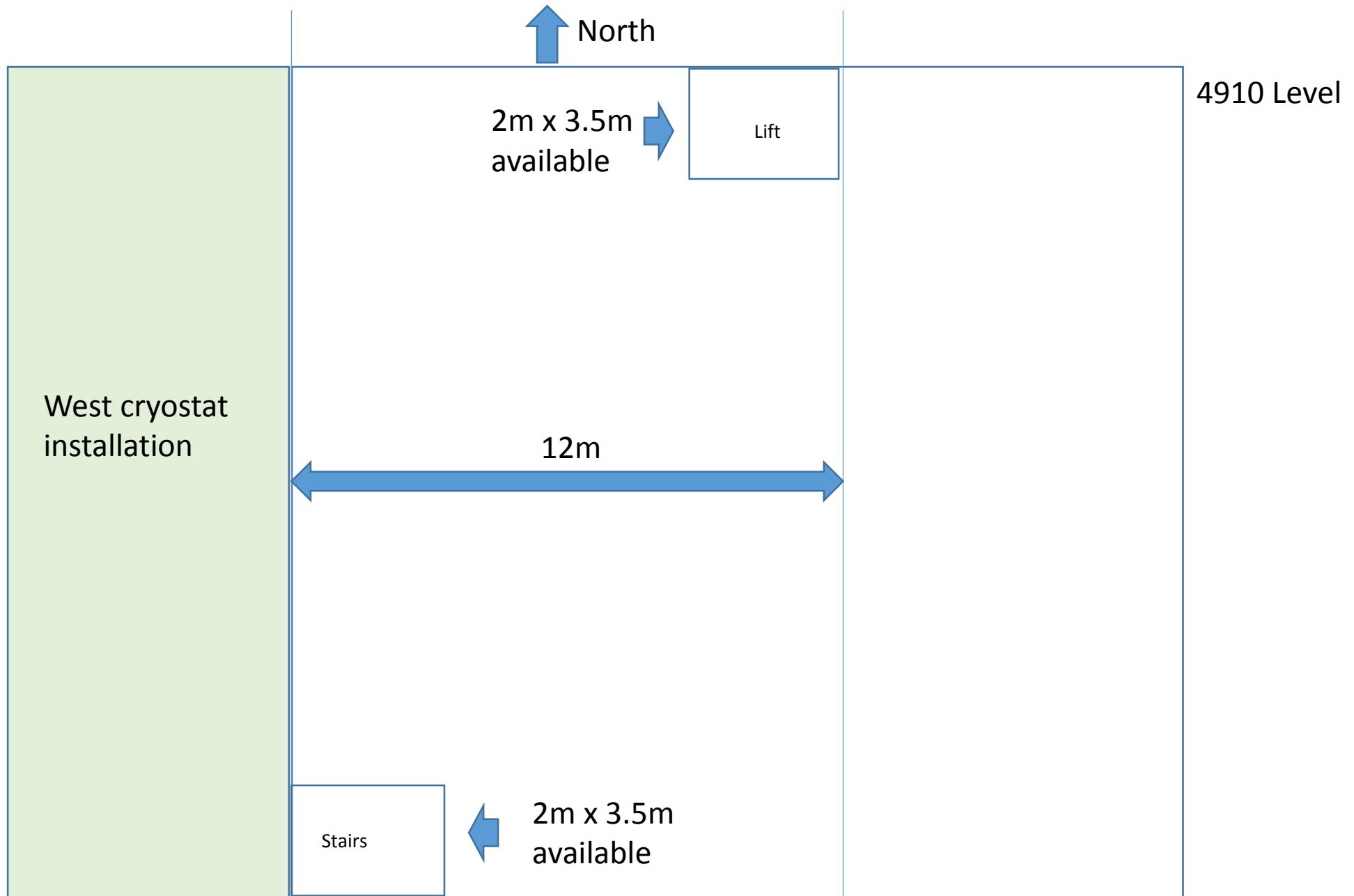
# Bridge and Crane Requirements

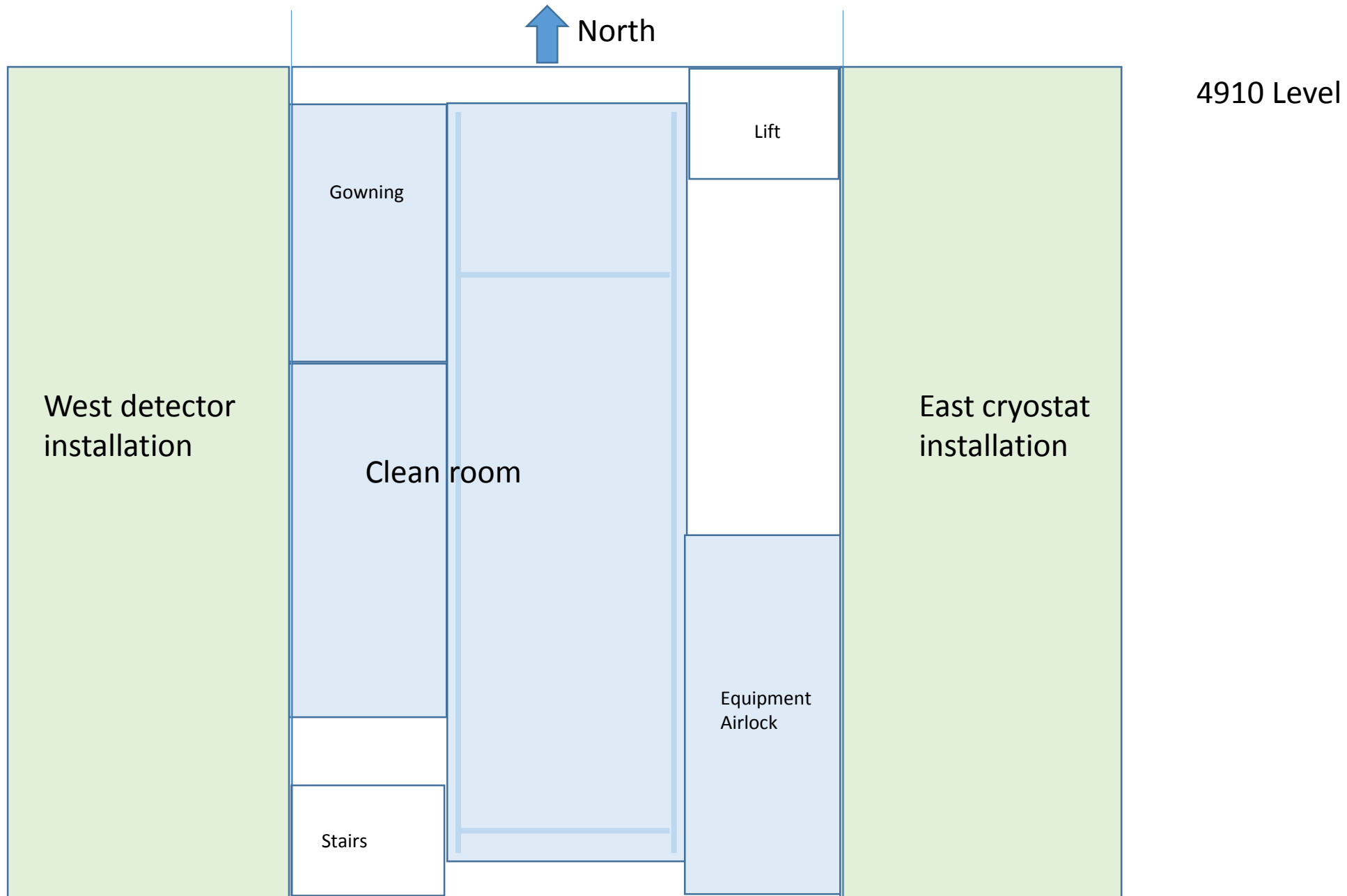
FSCF shall construct a bridge across the cavern in the North-South direction. Bridge shall maintain a 4.5-m width excluding guardrail space, while the overall width of the bridge, out to out both on top of the bridge and under the bridge, including routed utilities, shall be 5 m. The guardrail shall be removable over the entire length, but in sections, to allow handling of detector components from on top of the bridge to the space below the bridge. The live load on top of the bridge shall be 2 X the production hoist load of the Ross shaft or 44000 lbs. The design should minimize the section depth of the main structural members, while maintaining space for services to be routed through the bridge section. The bridge shall have anchors for personnel tie-offs that will be used when the rails are removed. The bridge shall have conveyance rails at the 4850 ft level that align with the rails in the drift at the North entrance and transition to center of the bridge east to west. FSCF shall construct two class C overhead cranes under the bridge running on a common runway. The crane runway rails shall run in the North-South direction. There shall be two independent bridge rails that travel north and south. Each bridge rail shall have one trolley traveling east and west. Each trolley shall have one hoist having a capacity of two tons. The overall crane coverage shall be 4.5 m East to West centered under the bridge, and 17 m North to South centered on the cavern. The crane lift shall be 4858 ft on the upper end and 4910 ft on the lower end. Crane and hoists shall be controlled remotely with variable speed control.

# Bridge interface to entrance drifts (from 30% design)

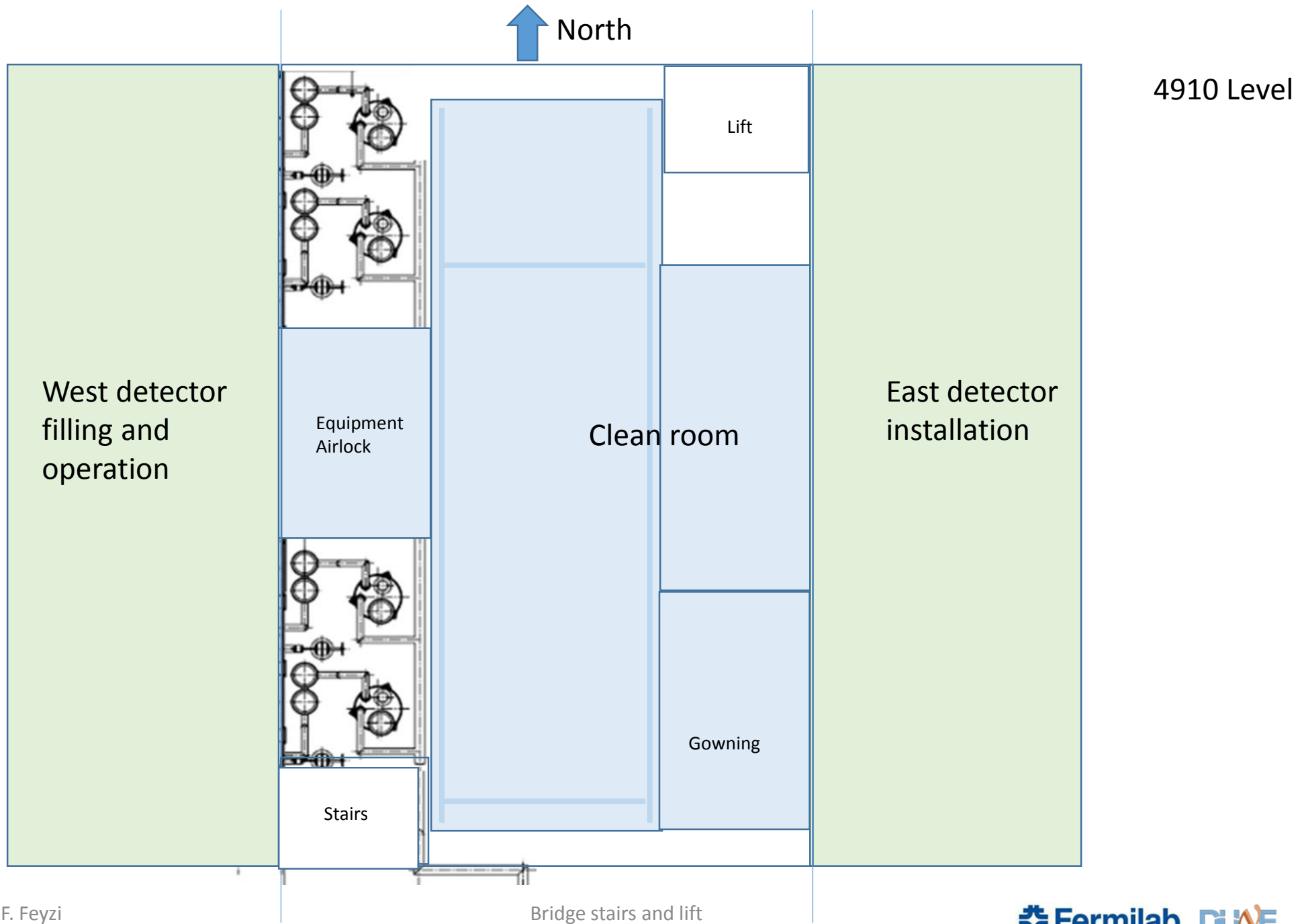


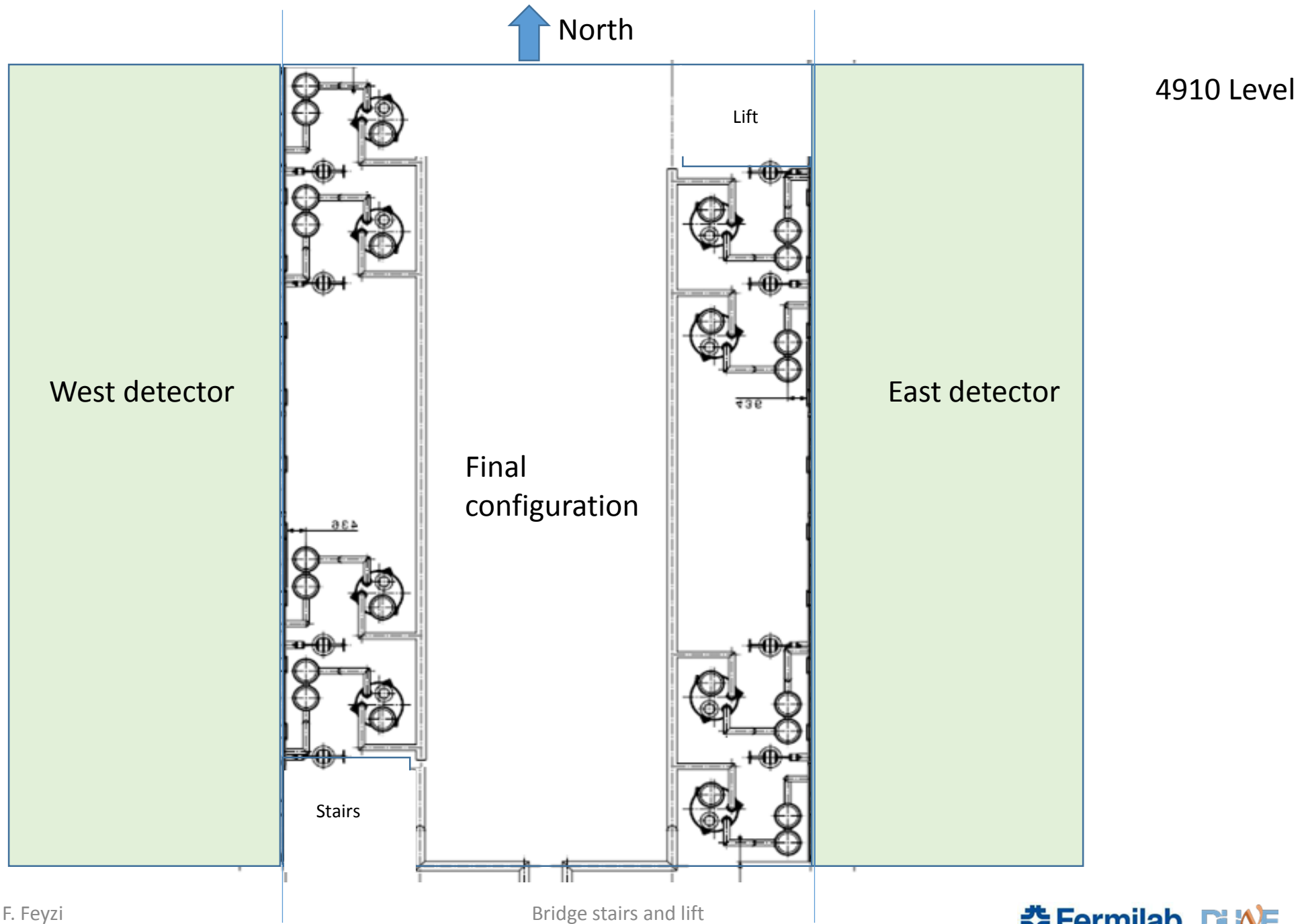




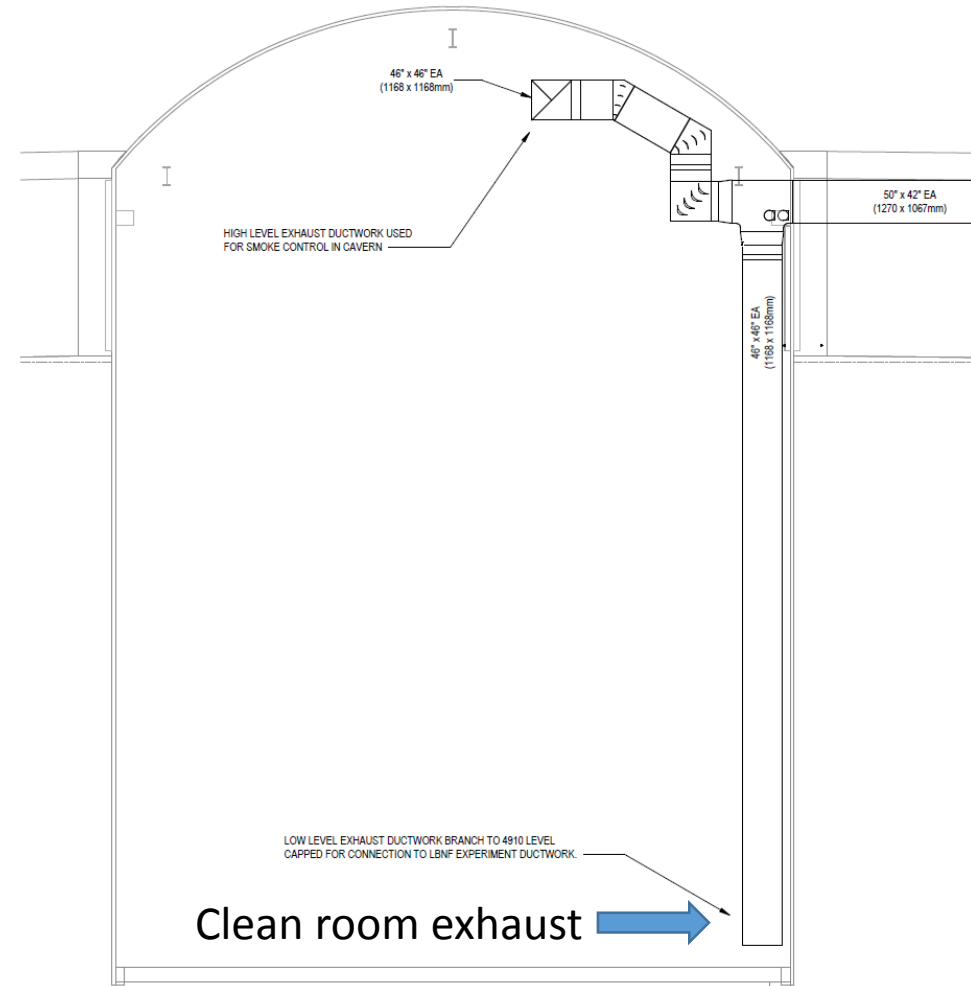








# Air exhaust duct from 4910 level to 4850 level



## 4850-33 SECTION

SCALE: 1/8" = 1'-0"

1