

Central Injector Summary

PT

29-Nov-2007

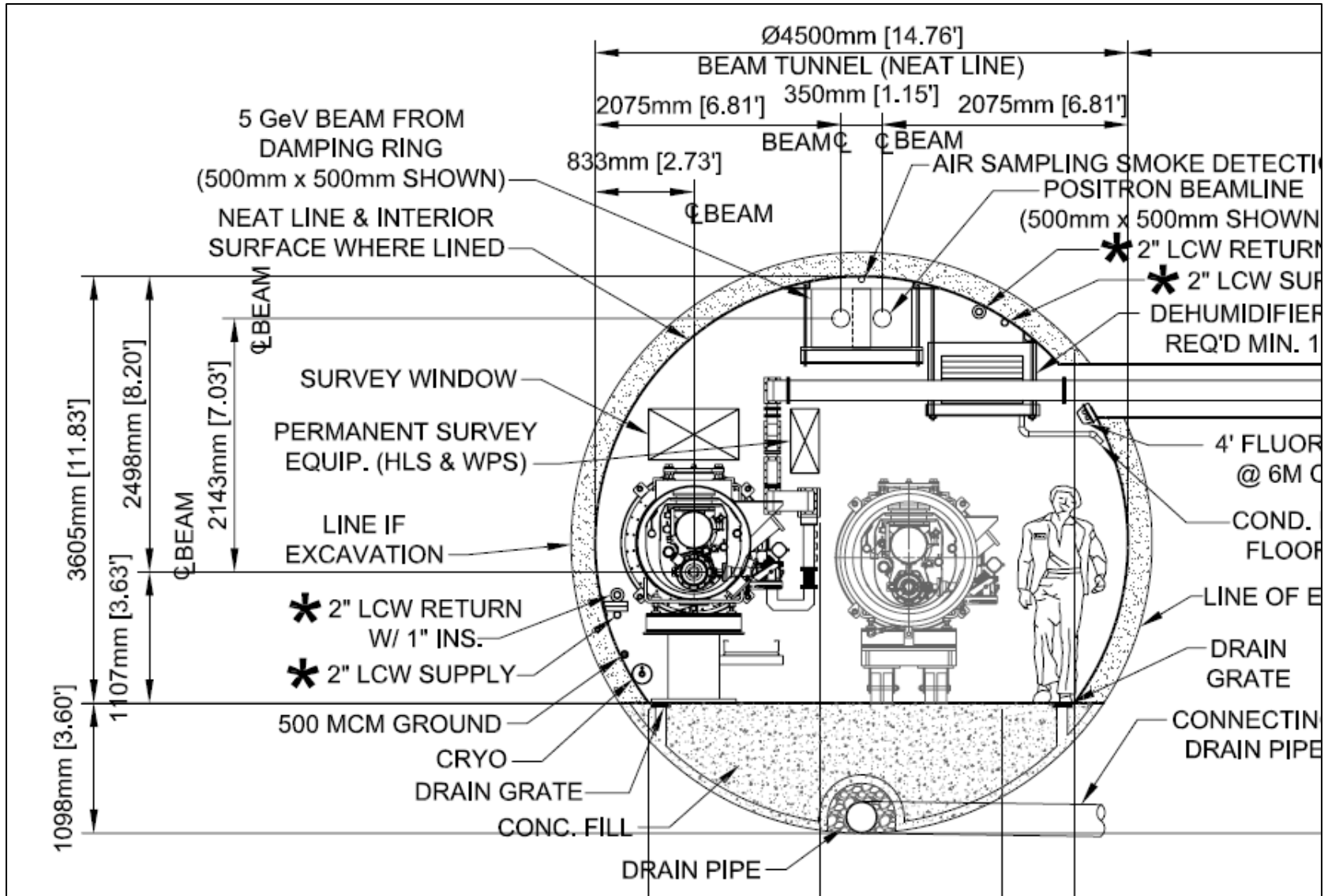
For more complete information on this topic, see the meeting information:

<http://ilcdoc.linearcollider.org/record/7925/files/> (presentation)

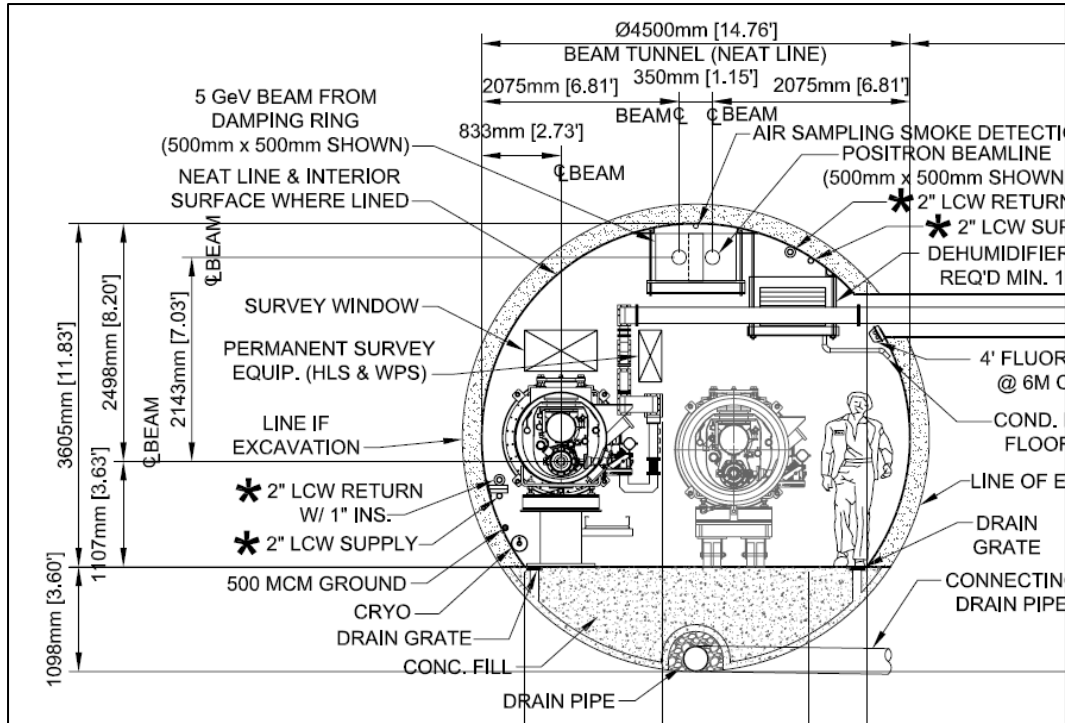
<http://ilcdoc.linearcollider.org/record/8605/files/> (minutes and notes)

Linac Tunnel X-Section

Service tunnel is off the page to the right



Linac Tunnel X-Section (2)



Distance between RTML / PSOURCE elevation and MLI elevation = 2.143 m

Note: PSOURCE and RTML need to be exchanged – PSOURCE needs to be closer to MLI than RTML

X offsets from MLI axis:

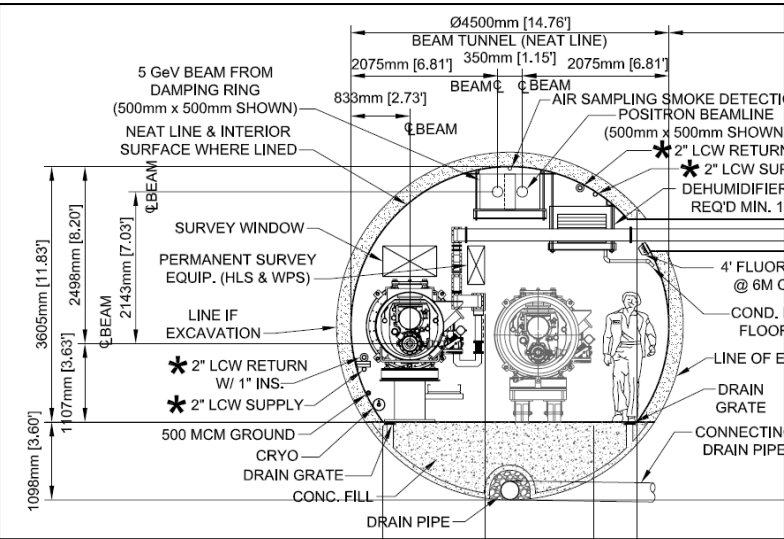
PSOURCE: 1.243 m

RTML: 1.593 m

“Upstairs” (injector) tunnels (at DR elevation) should have same layout: booster linac CMs on floor; RTML return line on ceiling with x offset.

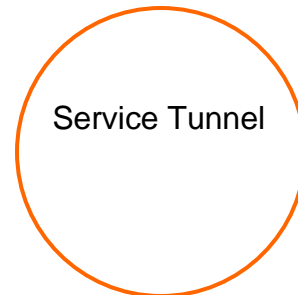
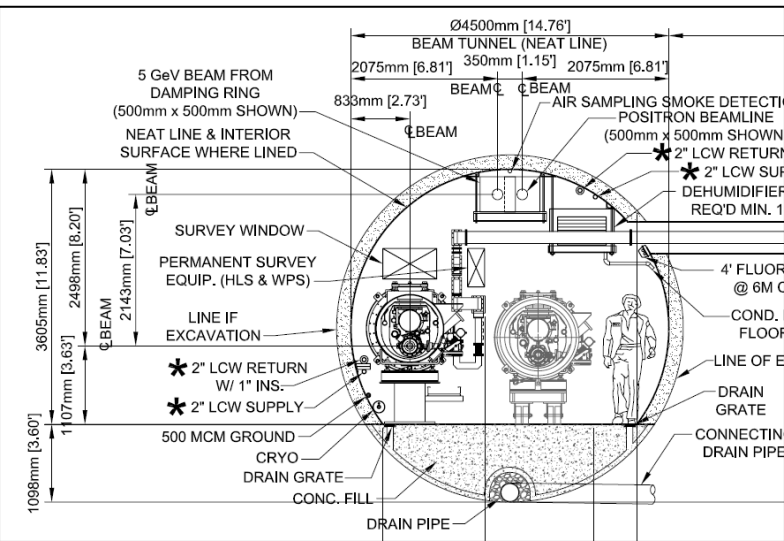
Three Tunnels

Arc to DR is on this side somewhere – implies that injector beamline arc has a larger radius of curvature than the RTML extraction arc, since injector has CM and SC solenoid so RTML and injector positioning relationship should be maintained through the arc

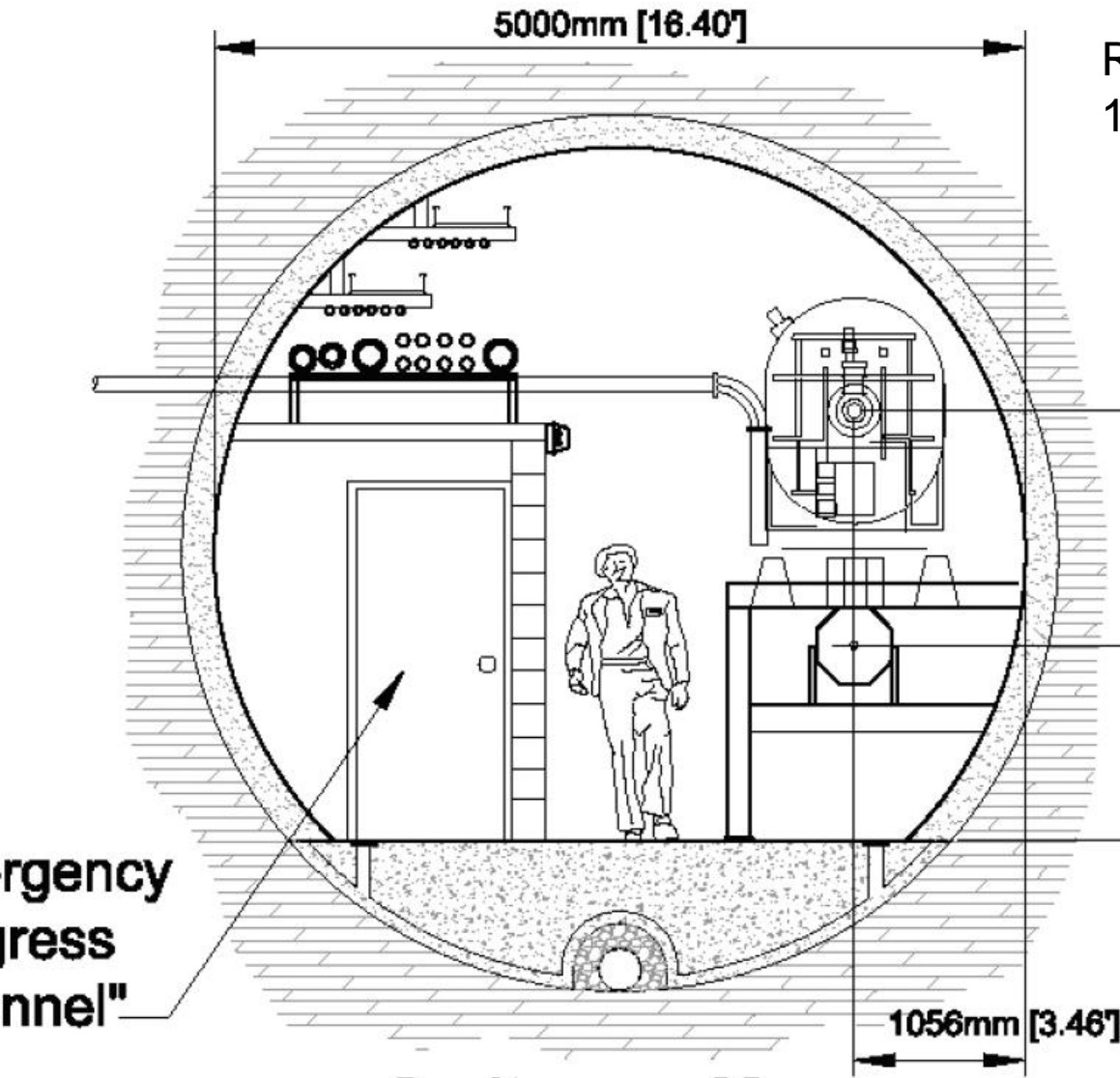


Injector Tunnel

Linac Tunnel



DR Tunnel X-Section



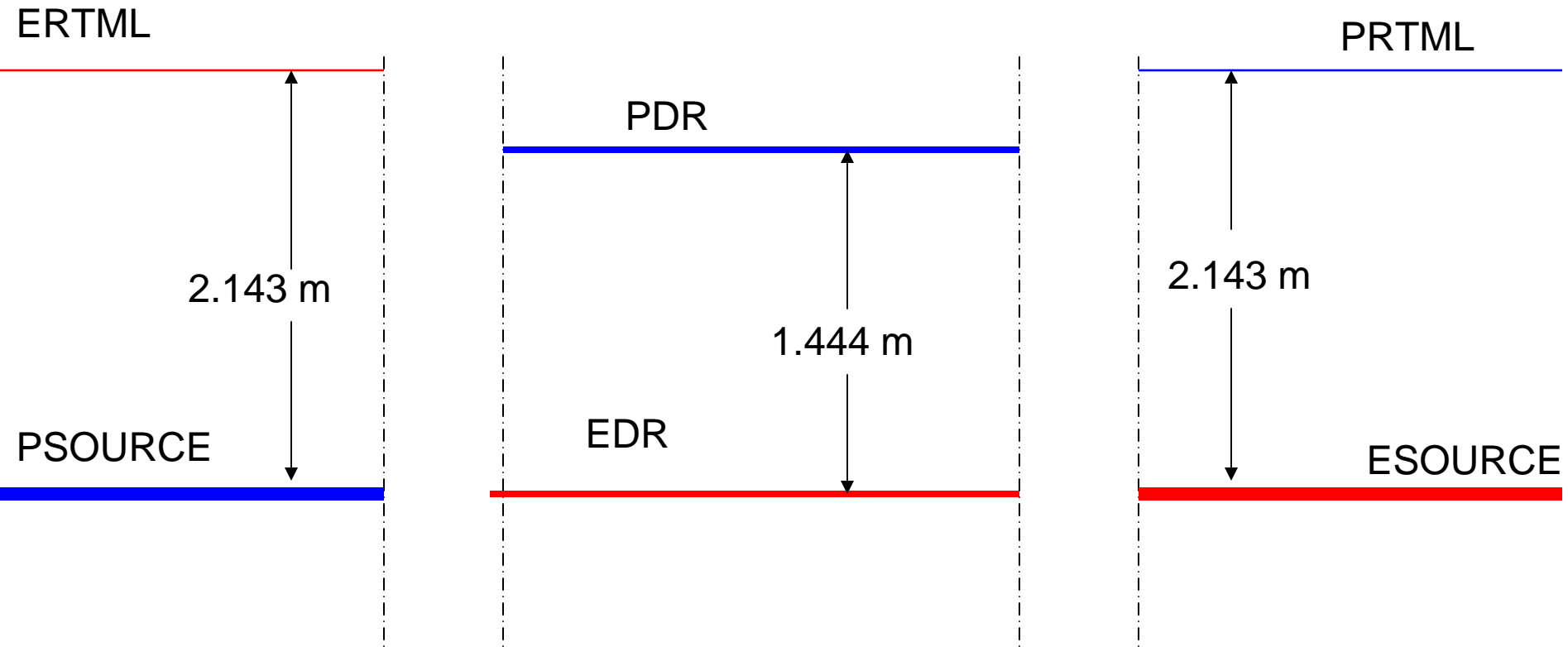
Ring-to-ring elevation difference = 1.444 m

Agreement at DESY was that lower ring would be e- ring

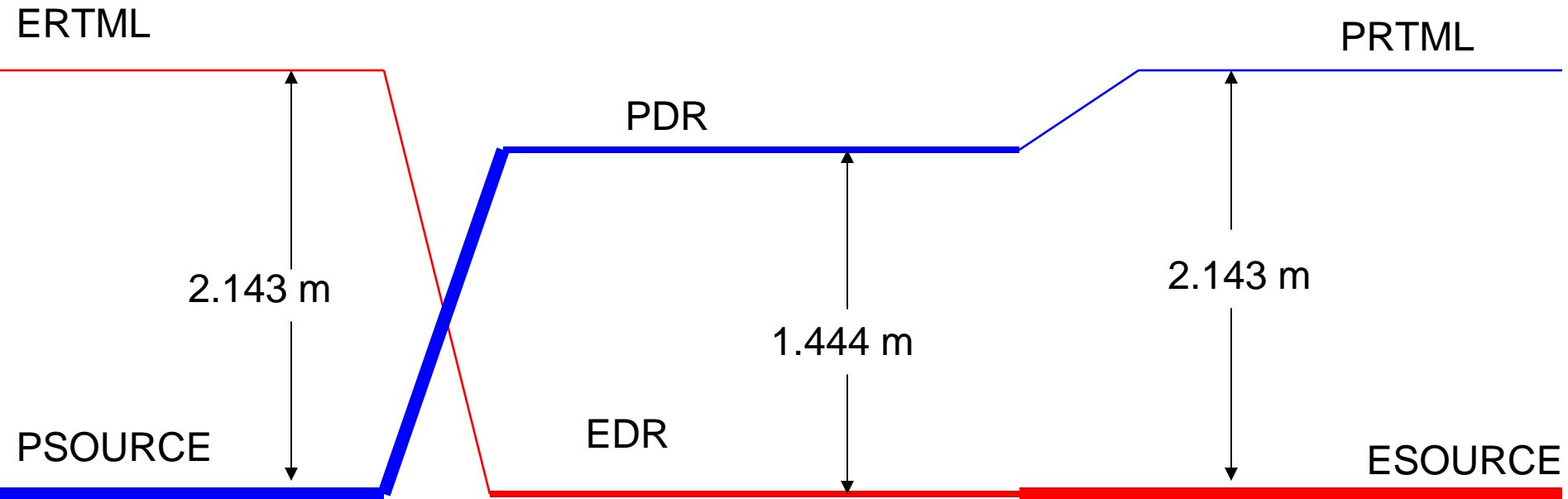
Note that lower ring beam axis height above invert = 1.203 m; in MLI tunnel it's 1.107 m.

Assume that the beamlines are at the same elevation, so the inverts are not (ie, there's a 10 cm difference in height between the floor in the injector tunnel and the floor in the DR tunnel).

DRi/DRx Elevations



DR Connections



Note: PSOURCE injection line and ERTML extraction line DO NOT actually pass through each other, but I can't draw them correctly on this picture...