

Update on Purity Monitors

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CALCI Consortium Meeting

November 16, 2023

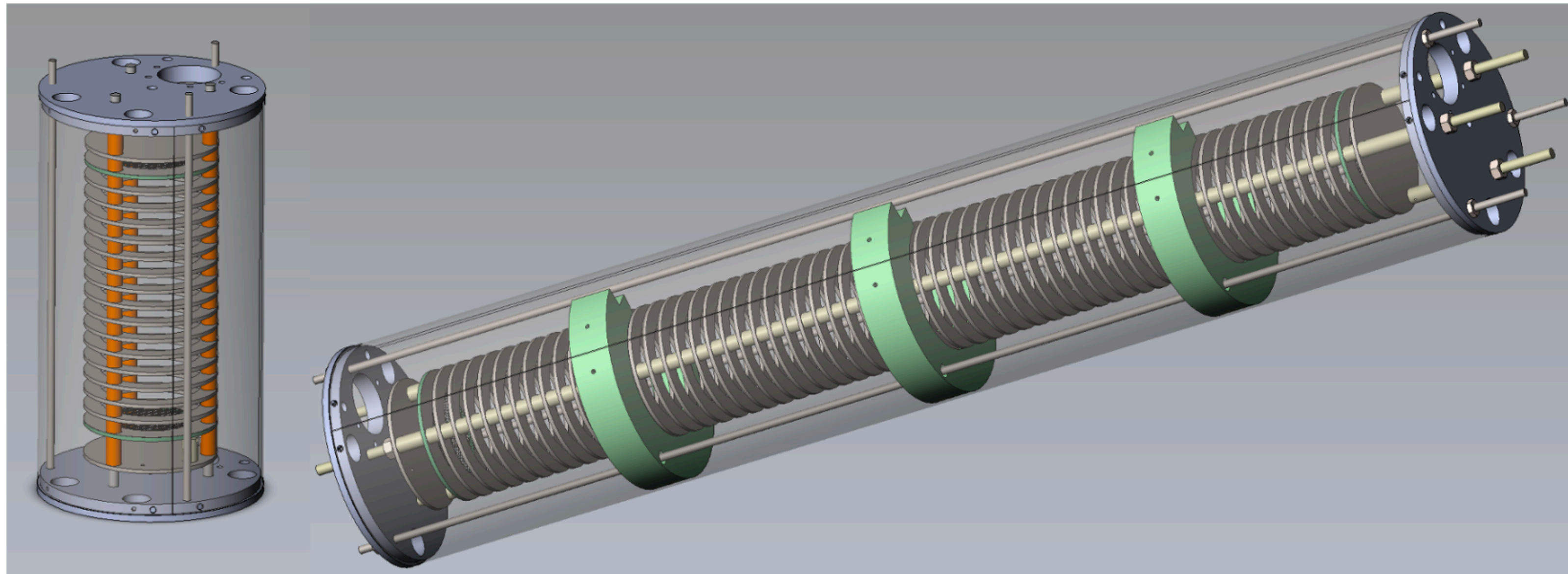


UCIRVINE

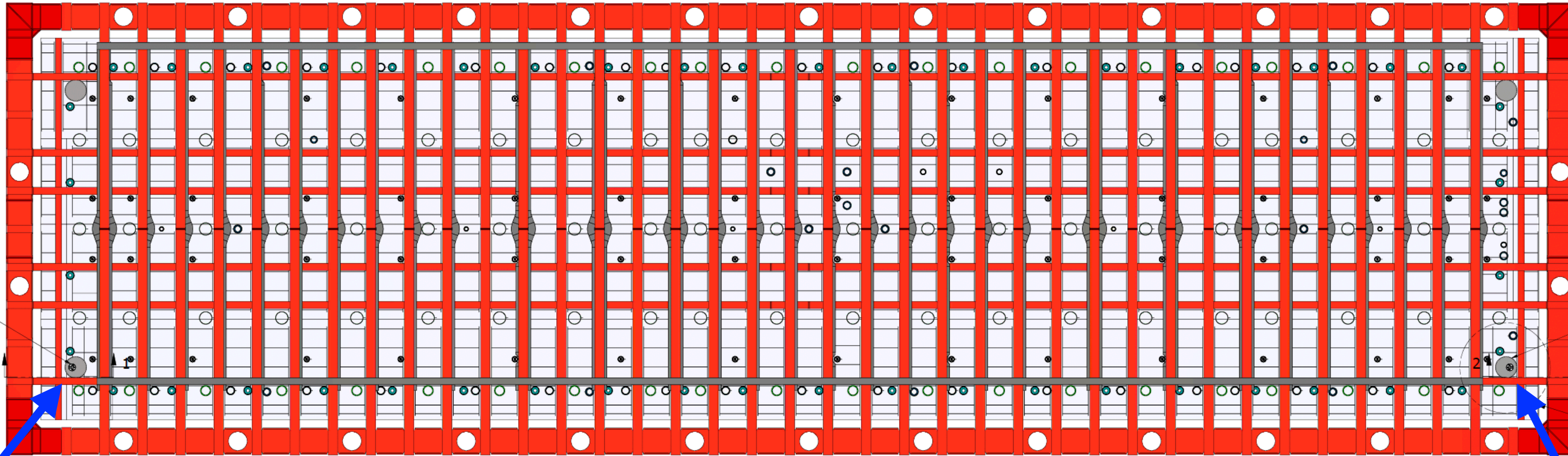


Purity monitors for far detectors

- Will build DUNE purity monitors in two different lengths: The standard purity monitor will have a length of 25 cm with a drift distance of 16 cm, and the long purity monitor will have a length of 75 cm with a drift distance of 64 cm.
- Build 4 PrMs in each FD cryostat, 2 standard and 2 long.
- Build 1 standard PrM within the recirculation system (inline), after LAr filter.



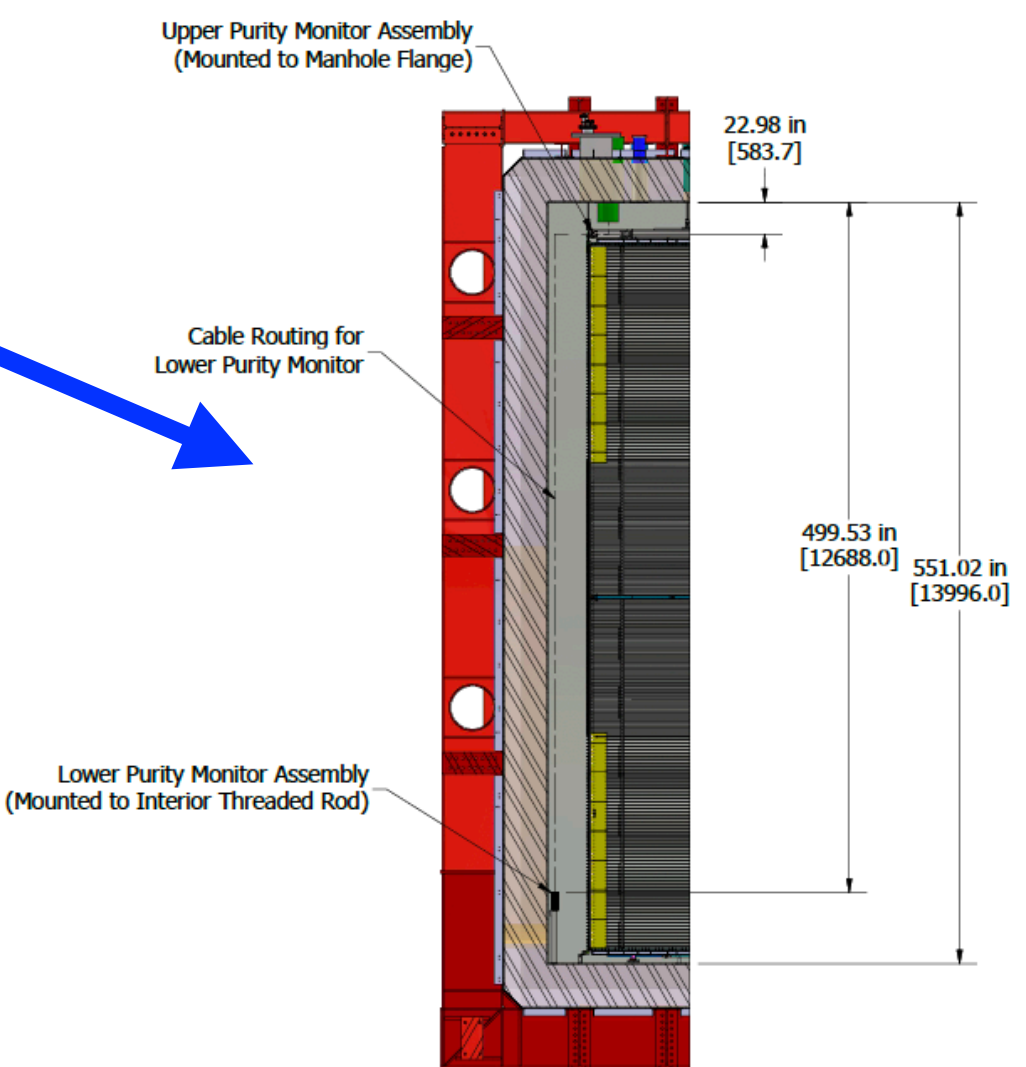
FD-VD



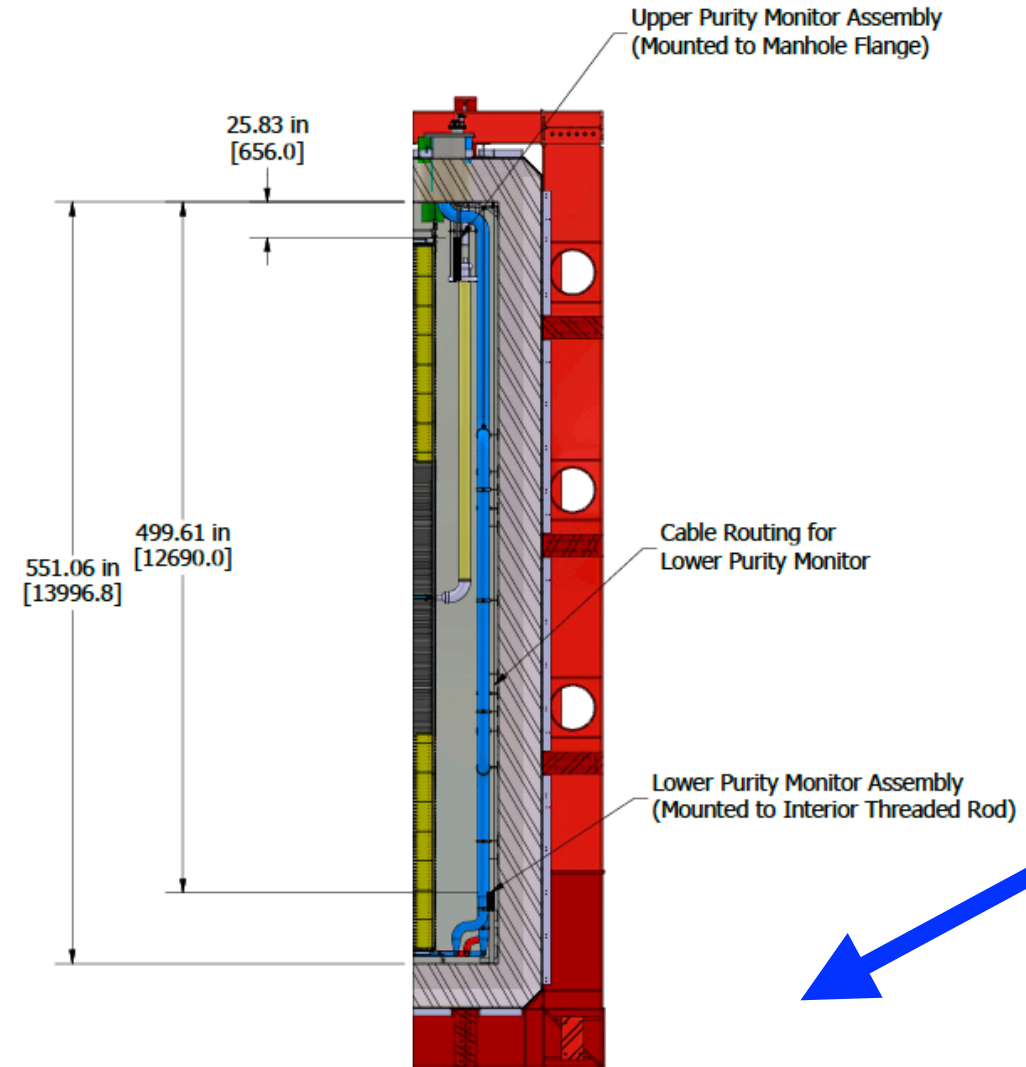
PLAN VIEW - FD2 Roof
SCALE 1 / 100

TCO side PrM

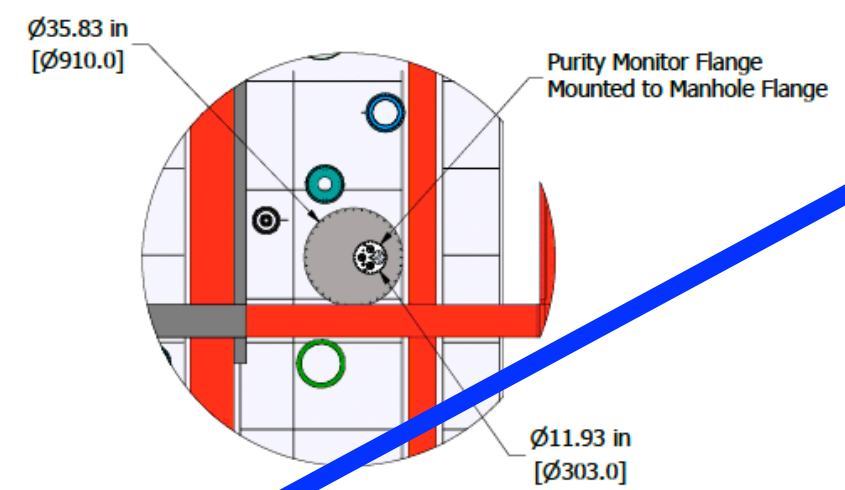
Non-TCO side PrM



SECTION 1-1
SCALE 1 / 100



SECTION 2-2
SCALE 1 / 100

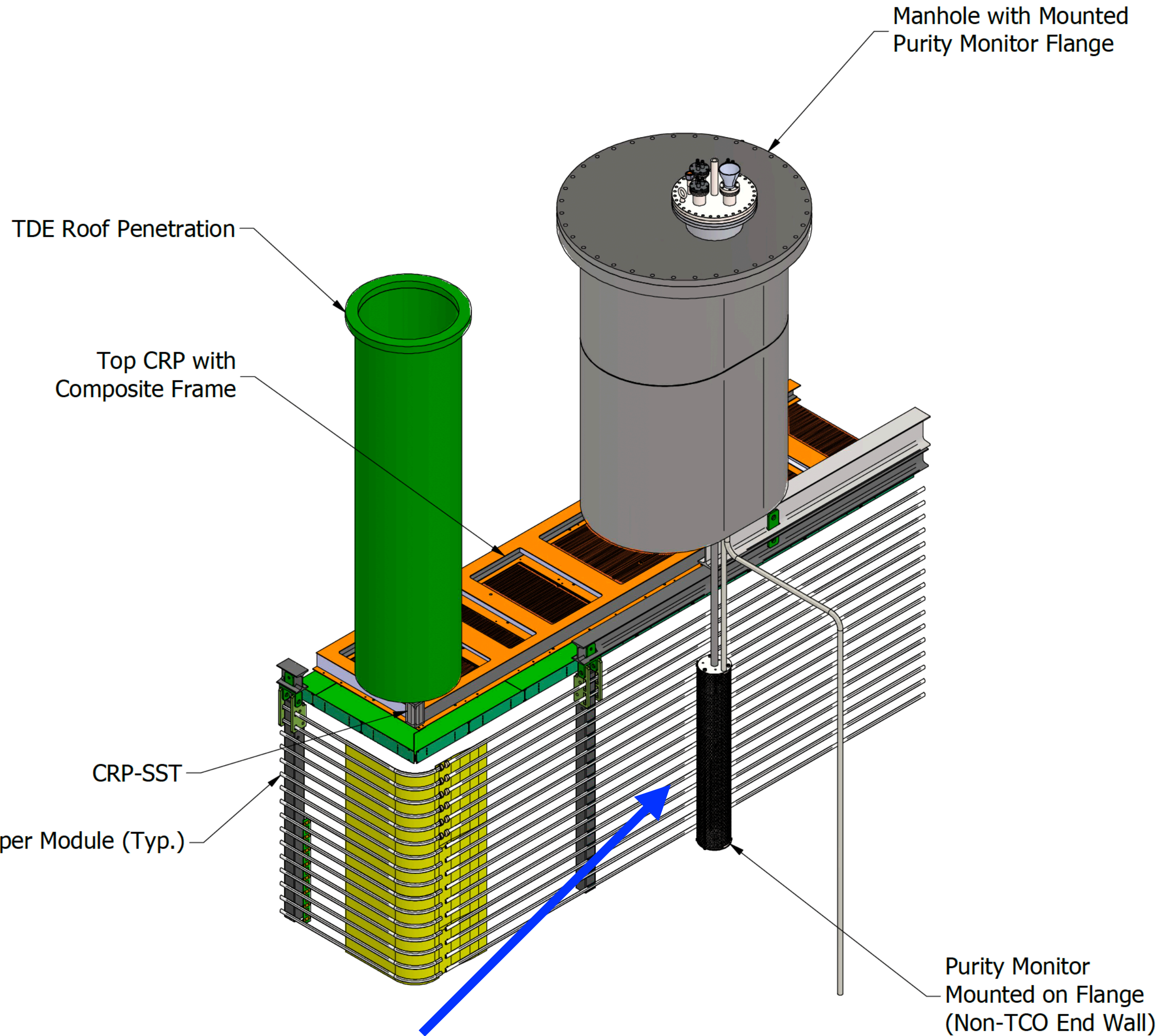


DETAIL A
SCALE 1 / 50

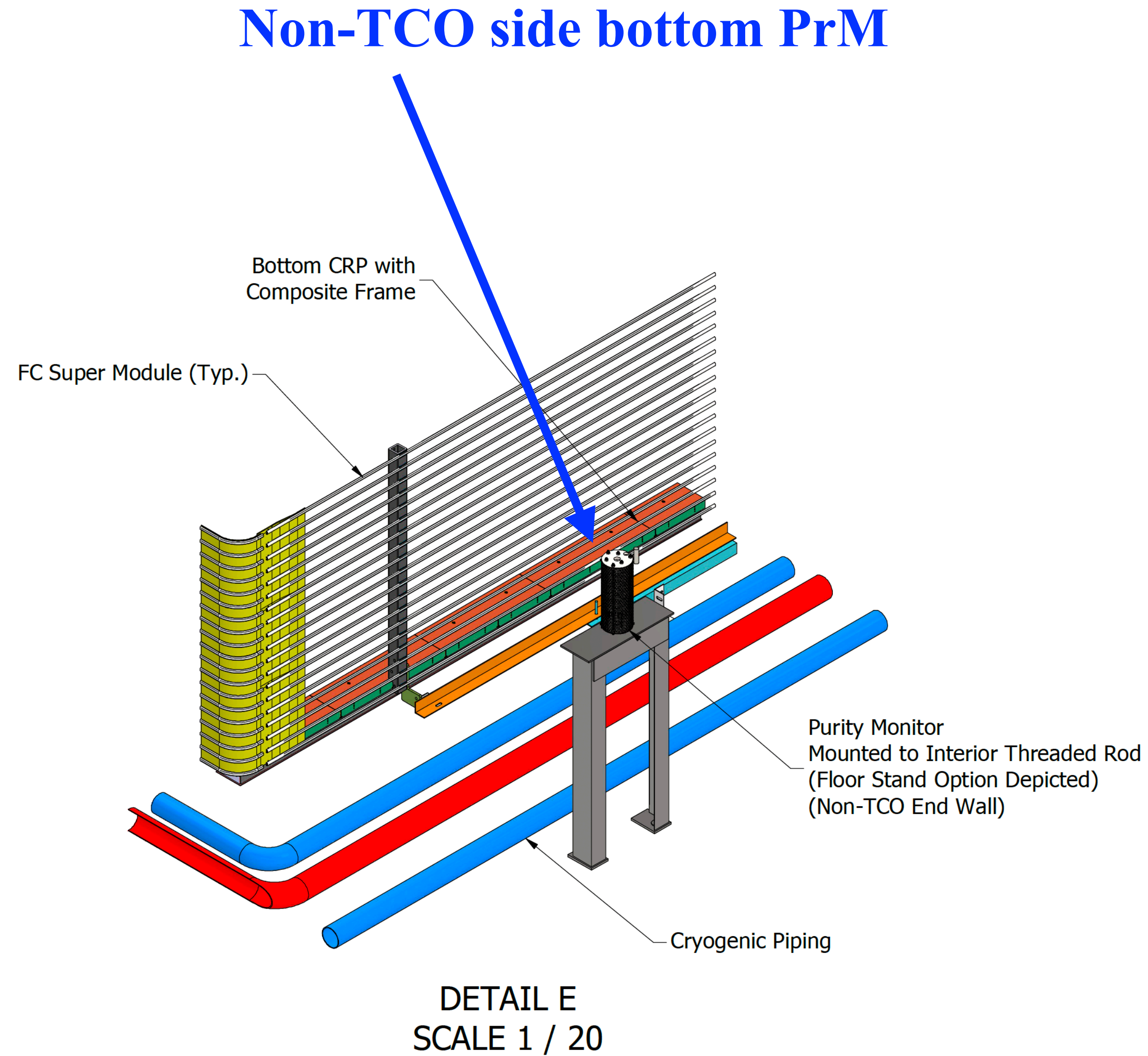
GENERAL NOTES:
1. All dimensions in [] are mm.

REVISION HISTORY			
REV	DESCRIPTION	DATE	APPROVED
1	INITIAL RELEASE	4/11/2023	

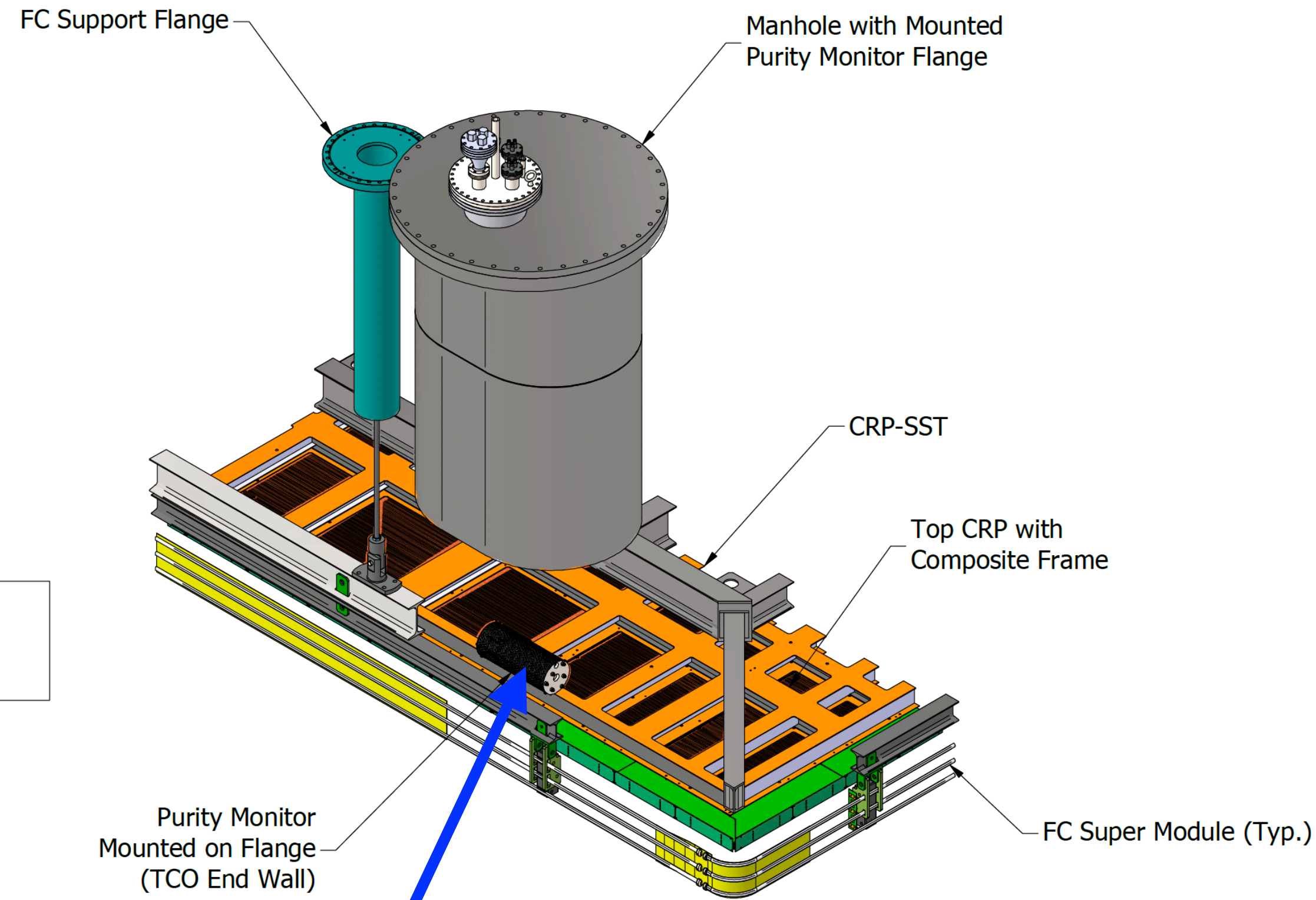
DRAWN njonik	04/11/23		
CHECKED			
QA			
MFG			
APPROVED		TITLE FD2 Purity Monitors	
SIZE D	DWG NO 2881719-01	REV 1	
SCALE 1 / 100	SHEET 1 OF 2		



Non-TCO side top PrM



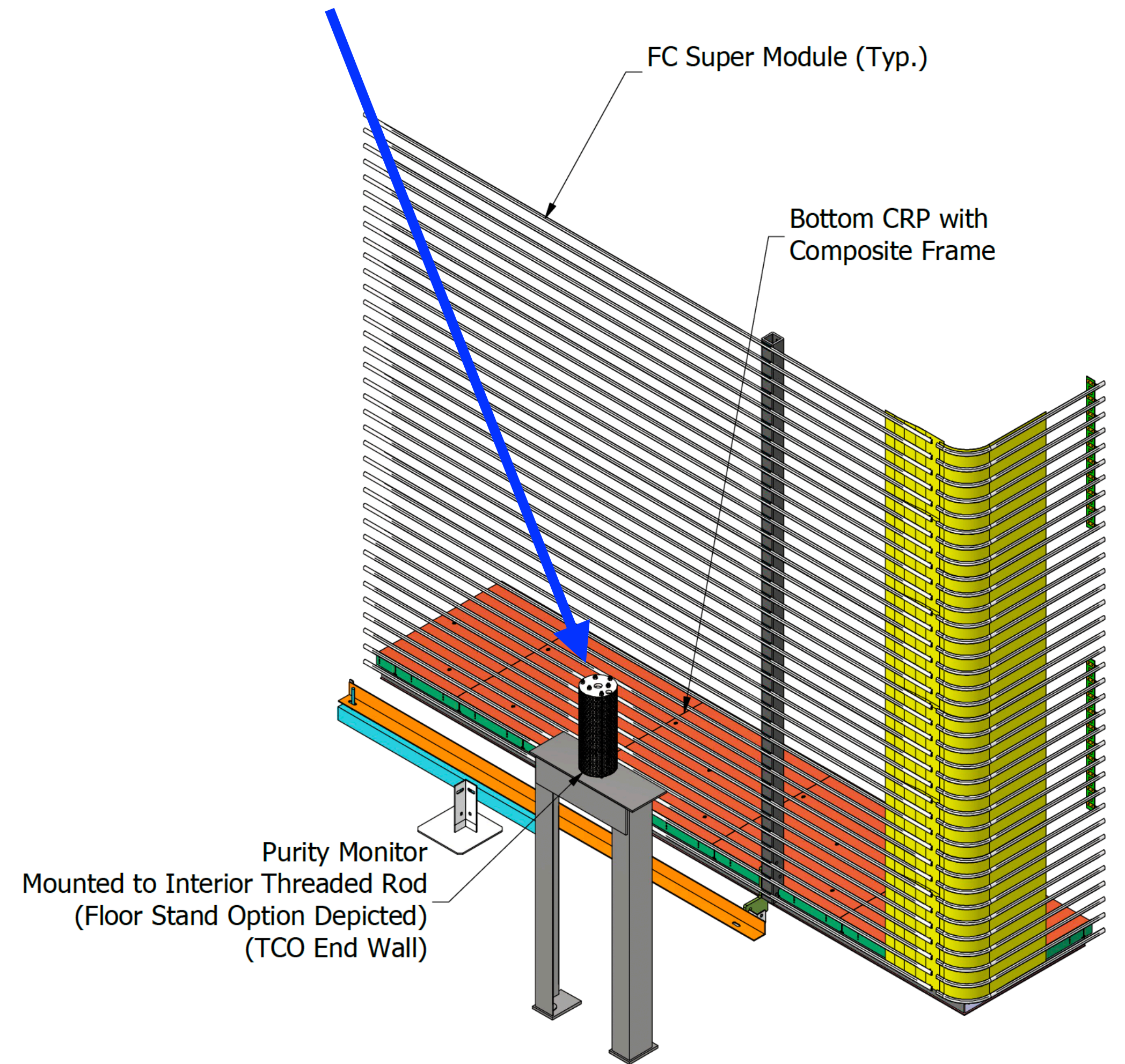
TCO side bottom PrM



Note:
TCO End Wall Purity Monitor Suspension Method TBD

TCO side top PrM

DETAIL B
SCALE 1 / 20

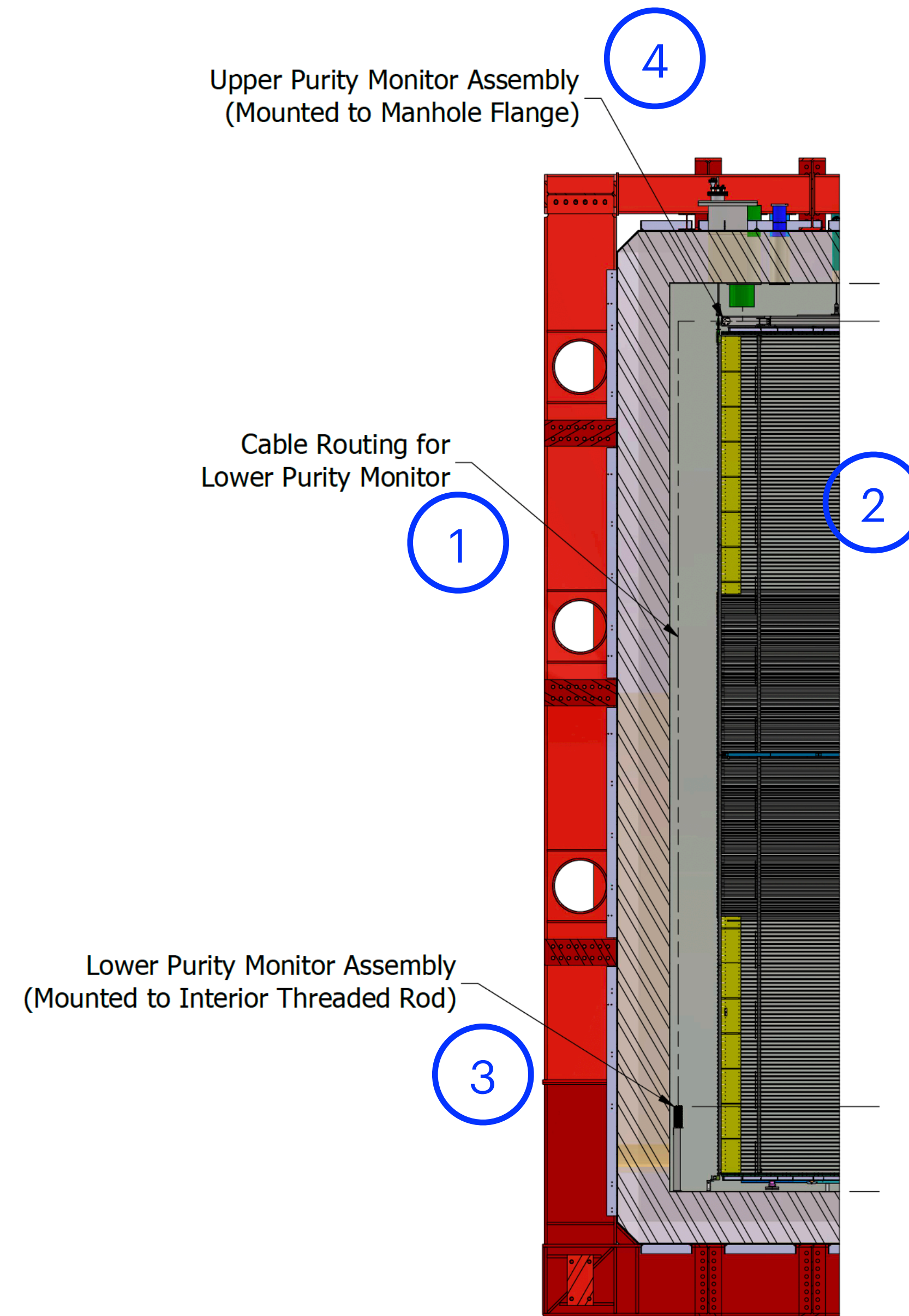


DETAIL D
SCALE 1 / 20

Installation plan

TCO side PrM Assembly

1. Route the fibers and cables for the bottom PrM
2. TPC installation
3. Install bottom PrM, connect fibers and cables to the bottom PrM
4. Install top PrM



Thanks