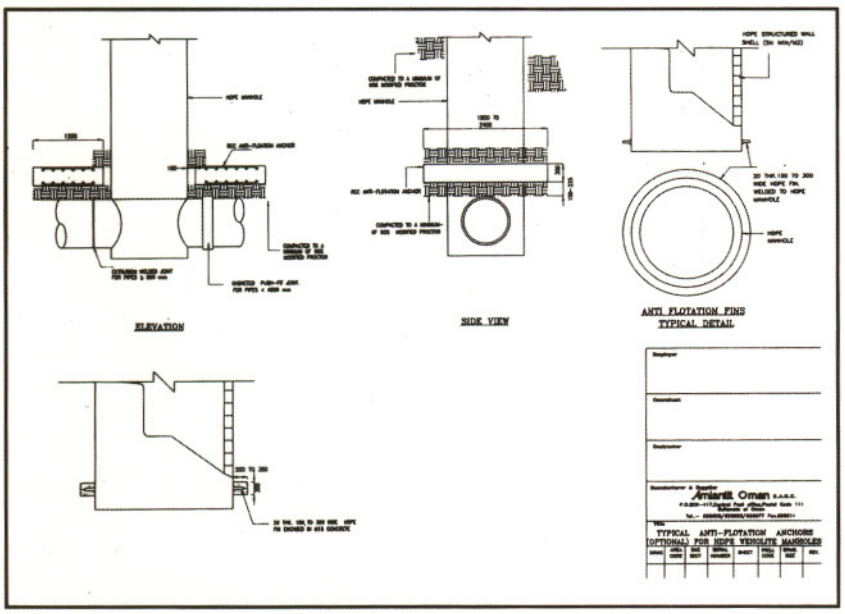
# CALCULATIONS FOR CHECK FOR FLOATATION OF HDPE MANHOLES / CHAMBERS

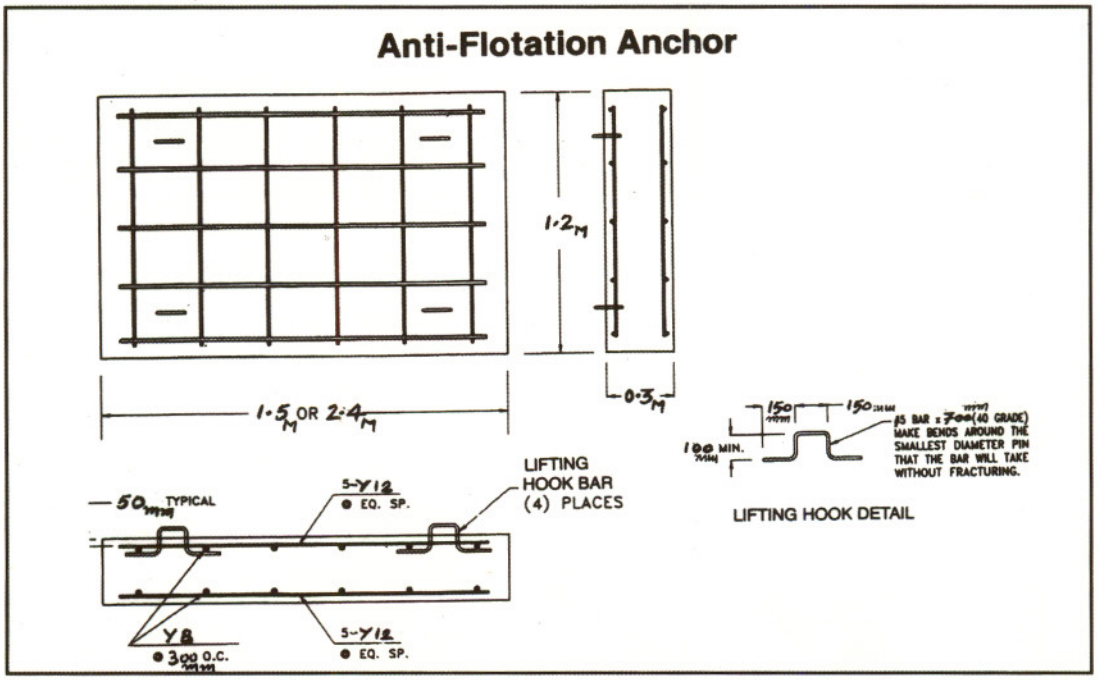
In areas where Ground Water Level is higher than the levels of Crowns of pipes connected to an HDPE Manhole / Chamber, the safety thereof against floatation (i.e. Buoyancy) should be checked and where necessary anti-floatation anchor should be provided.

A simple anti-floatation anchor consists of a HDPE sheet collar 20 -25 mm thick x OD = (OD of Manhole + 500 mm) extrusion welded on the external surface of Manhole. This results in additional soil weight acting downward and thus, increasing the Downward Thrust.

However, where substantial increase in Downward Thrust is required, it is necessary to provide precast / Cast-in-situ RCC anti-floatation anchors, as detailed in the sketches. The precast RCC anchor is in the form of a 0.3 m thick slab with mesh reinforcement. of sizes 1.2 x 1.5 m, 1.2 x 1.8 m and 1.2 x 2.4 m respectively for Manholes dia 1200 mm, 1500 mm and 1800 mm over the pipe stub-outs having a backfill cushion of 150 mm to 200 mm, as shown in the sketch.

The cast-in-situ RCC anchor is as seen in the photograph below.



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