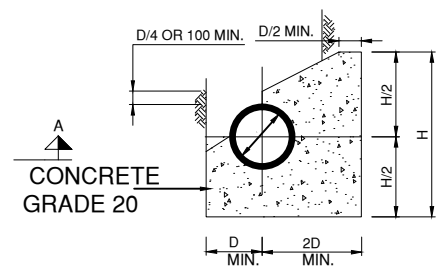
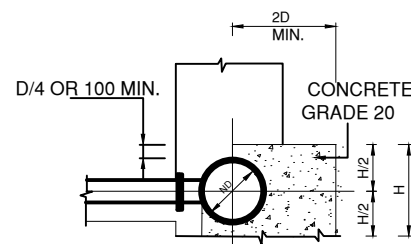


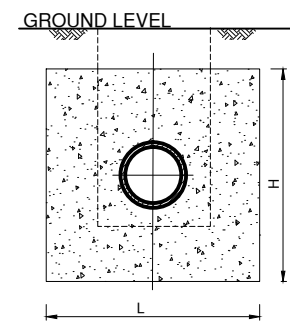
PLAN  
90° HORIZONTAL BEND



SECTION A - A



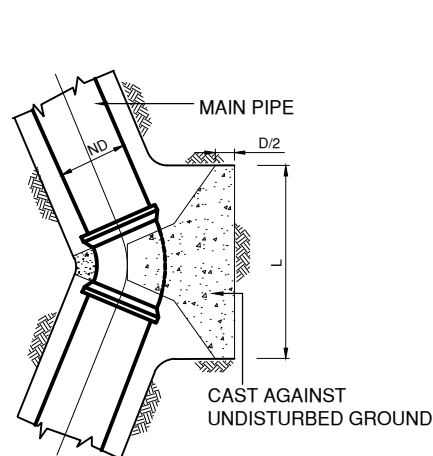
SECTION B - B



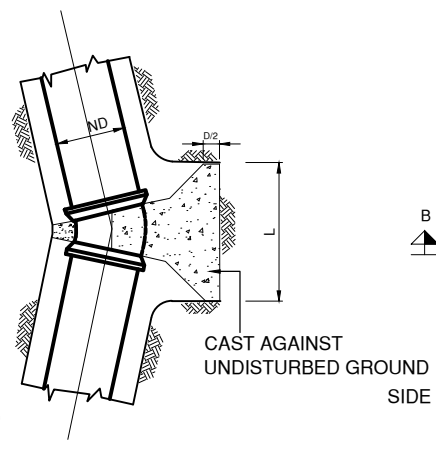
SECTION C - C

DIMENSIONS OF THRUST BLOCKS FOR DIFFERENT TEST PRESSURES

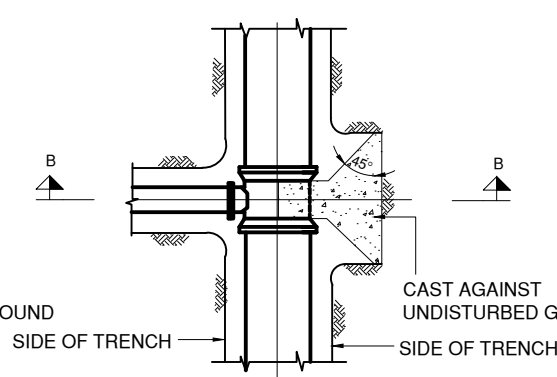
TEST PRESSURE	D mm DI PIPE	D mm PE PIPE	BENDS								TEES	
			11 1/4°		22 1/2°		45°		90°		L	H
6 bar	80	90	0.16	0.16	0.16	0.16	0.24	0.16	0.26	0.26	0.22	0.22
	100	110	0.20	0.20	0.20	0.20	0.29	0.20	0.33	0.33	0.27	0.27
	150	160	0.23	0.23	0.28	0.23	0.55	0.23	0.48	0.48	0.40	0.40
	200	225	0.30	0.30	0.36	0.30	0.71	0.30	0.63	0.63	0.53	0.53
	250	280	0.38	0.38	0.43	0.38	0.85	0.38	0.77	0.77	0.64	0.64
	300	-	0.38	0.38	0.60	0.38	1.17	0.38	0.90	0.90	0.76	0.76
10 bar	50	63	0.10	0.10	0.13	0.10	0.25	0.10	0.22	0.22	0.18	0.18
	80	90	0.16	0.16	0.20	0.16	0.39	0.16	0.34	0.34	0.29	0.29
	100	110	0.20	0.20	0.25	0.20	0.48	0.20	0.42	0.42	0.35	0.35
	150	160	0.24	0.23	0.47	0.23	0.91	0.23	0.61	0.62	0.52	0.52
	200	225	0.30	0.30	0.60	0.30	1.18	0.30	0.81	0.81	0.68	0.68
	250	280	0.38	0.38	0.72	0.38	1.41	0.38	0.99	0.99	0.83	0.83
	300	-	0.50	0.38	1.00	0.38	1.96	0.38	1.16	1.16	0.98	0.98



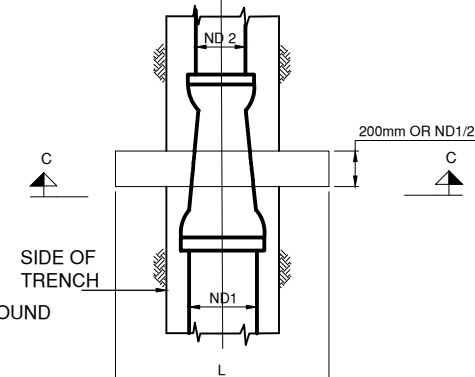
PLAN  
45° HORIZONTAL BEND



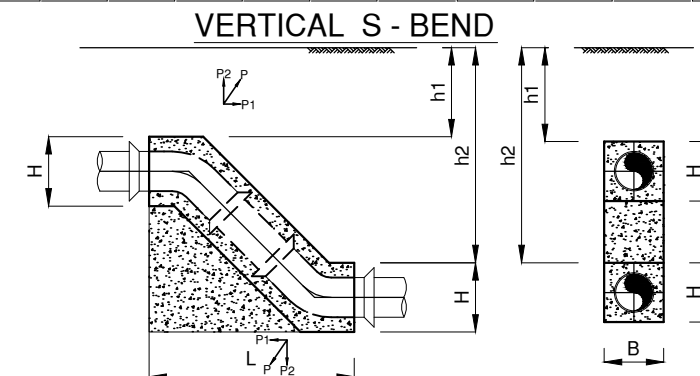
PLAN  
22 1/2° HORIZONTAL BEND



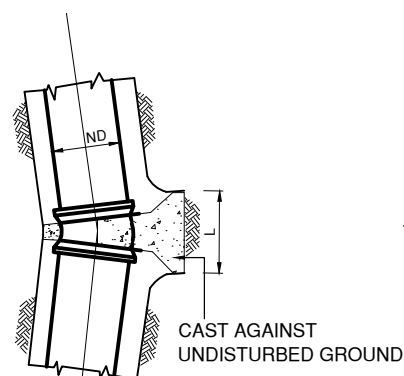
PLAN  
THRUST BLOCK FOR TEE



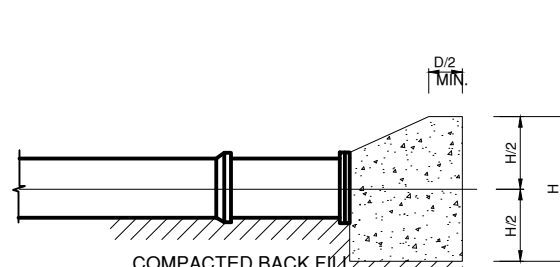
PLAN  
THRUST BLOCK FOR TAPER



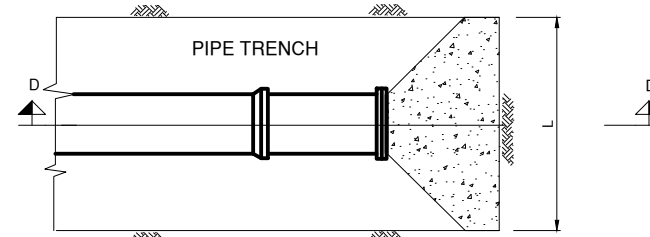
VERTICAL S - BEND



PLAN  
11 1/4° HORIZONTAL BEND



SECTION D - D



PLAN  
THRUST BLOCK FOR ENDCAP/BLANK FLANGE

WATER PRESSURE (Bar)	PIPE NOMINAL OUT SIDE DIAMETER D (mm)	DEGREE OF BEND (Deg)	DIMENSION				
			B (m)	H (m)	L (m)	h1 (m)	h2 (m)
6/10	90	45	0.30	0.30	2.00	0.90	1.90
6/10	100	45	0.60	0.60	2.00	0.75	1.75
6/10	110	45	0.60	0.60	2.00	0.76	1.76
6/10	160	45	0.75	0.60	2.50	0.78	1.78
6/10	200	45	0.80	0.80	3.00	0.70	1.70
6/10	225	45	0.85	0.85	3.00	0.69	1.69
6/10	280	45	1.00	0.90	4.00	0.70	1.70
10/16	150	45	0.80	0.60	2.80	0.78	1.78
10/16	200	45	1.00	0.50	3.20	0.85	1.85
10/16	250	45	1.00	0.70	4.00	0.78	1.78
10/16	300	45	1.00	0.90	5.00	0.70	1.70
10/16	350	45	1.30	0.90	5.00	0.73	1.73
10/16	400	45	1.50	0.70	5.00	0.85	1.85
10/16	500	45	1.80	0.80	5.60	0.85	1.85
10/16	600	45	2.20	0.90	6.00	0.85	1.85

1. THE DIMENSIONS OF THRUST BLOCKS ARE GIVEN IN METERS.
2. WHEN TWO PIPELINES ARE LAID IN COMMON TRENCH, THE BENDS SHALL BE STAGGERED TO MAKE WAY FOR INDEPENDENT THRUST BLOCKS.WHEN STAGGERING OF BENDS IS NOT POSSIBLE, THE THRUST BLOCK SHALL HAVE THE COMBINED AREA OF L X H REQUIRED FOR BOTH BENDS.
3. THE ABOVE DIMENSIONS OF THRUST BLOCKS ARE VALID FOR NON SUBMERGED CONDITION ONLY. FOR SUBMERGED CONDITION, DOUBLE THE EFFECTIVE LATERAL AREA (LXH).
4. L AND H MAY BE ALTERED TO SUIT SITE, BUT THE LATERAL AREA (LXH) SHALL REMAIN THE SAME OR GREATER.
5. WHEN ANCHOR GASKETS ARE USED, THE AREA (LXH) MAY BE REDUCED BY 50%.
6. THE THRUST BLOCKS SHALL EXTEND FROM THE FITTING UP TO THE UNDISTURBED FACE OF THE PIPE TRENCH.
7. ALL THRUST BLOCKS SHALL BE OF GRADE 20 CONCRETE.



CLIENT:  
MINISTRY OF ENVIRONMENT  
AND ENERGY

CONSULTANCY SERVICES FOR DESIGN OF WATER SUPPLY FACILITIES IN Ha.HORAFUSHI,  
Hdh.HANIMAADHOO,Sh.MILANDHOO,R.UNGOOFAARU,Lh.NAIFARU,Dh.KUDAHUVADHOO  
,Th.GURAI DHOO AND Ga.VILLINGILI , MALDIVES

DESIGN  
ENGINEER

DRAWN

CHECKED  
DESIGN CHIEF

APPROVED

SL.NO

DRWING NO

DESCRIPTION



GREENTECH CONSULTANTS (Pvt.) Ltd IN ASSOCIATION WITH  
DEVELOPMENT COLLABORATION PARTNERSHIP (Pvt.) Ltd MALDIVES  
AND OPTIMUM SOLOUTIONS (Pvt) Ltd, MALDIVES

TITLE:

**THRUST BLOCKS  
DISTRIBUTION NETWORK**  
R.UNGOOFAARU

DATE

DRG.NO: R.UNGOOFAARU/STD/03  
SCALE: NOT TO SCALE