



NOTE:

ALL FITTINGS MUST BE WRAPPED WITH POLYETHYLENE TO PREVENT CONCRETE FROM ADHERING TO BOLTS OR PIPE.

REQUIRED CUBIC YARDS OF CONCRETE *			
SIZE	11 1/4° BEND	22 1/2° BEND	45° BEND
4" 6" 8"	0.2 0.4	0.3 0.7	0.9 2.1
1	0.6	1.3	3.6
10"	1.0	1.9	5.6
12"	1.4	2.7	8.1
14"	1.9	3.8	11.1
16" 18"	2.4	4.9	14.4
	3.1	6.2	18.3
20"	3.8	7.6	22.6
24"	5.5	10.7	32.5

st based on 250 psi maximum pressure with no soil bearing pressure

DRAWN BY: JSH

CHECKED BY: RJH

APPROVED BY:
DIRECTOR OF PUBLIC WORKS

CITY OF BOULDER, COLORADO

VERTICAL THRUST BLOCK ISSUED: JULY 2, 1998

REVISED: OCT. 17, 2000

DRAWING NO.

5.15