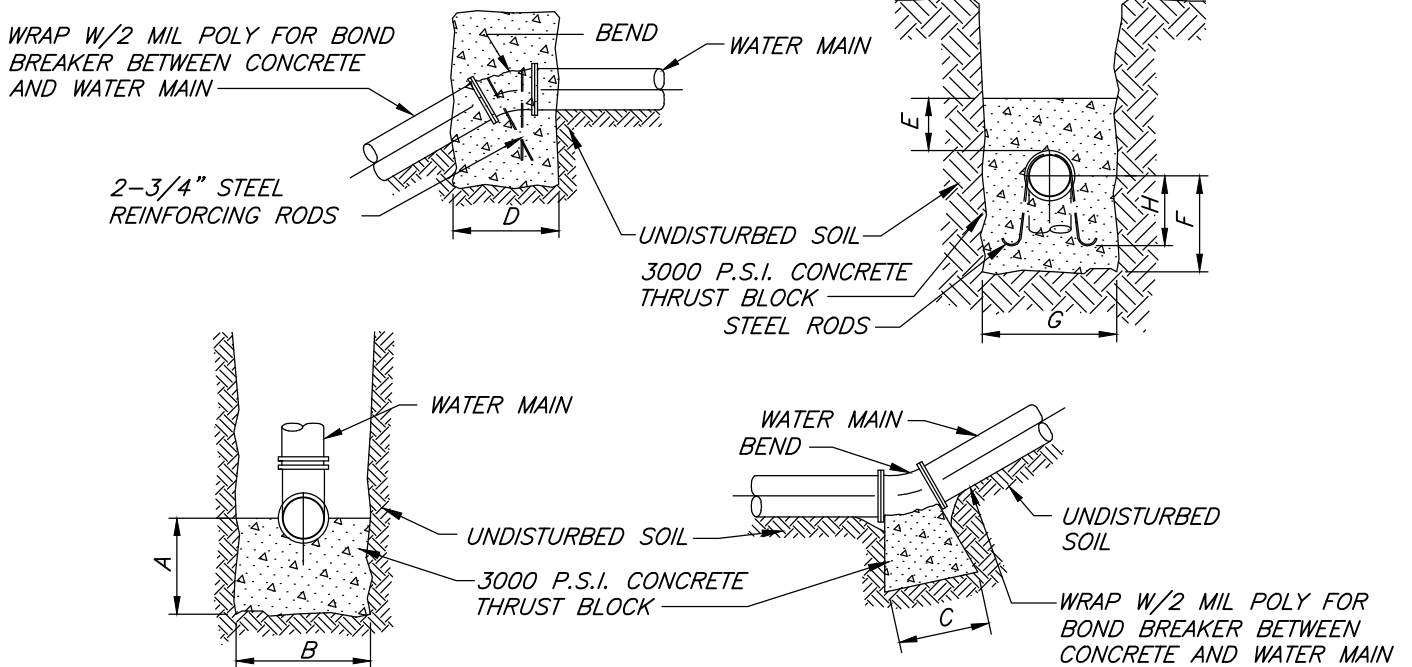


BEND	Min. Volume of Concrete For Block dimensions D,E,F,G	MINIMUM ALLOWABLE DIMENSION FOR VERTICAL THRUST BLOCKS (IN FEET)							
		A	B	C	D	E	F	G	ROD LENGTH H
6" 11 1/4°	.2 Cu. Yd.	1.0	2.5	1.0	2.0	0.5	1.0	2.0	0.5
22 1/2°	.4 Cu. Yd.	1.0	2.5	1.5	2.0	1.0	2.0	2.0	1.5
45°	.8 Cu. Yd.	1.5	2.5	1.5	2.5	1.5	2.0	2.5	1.5
90°	1.5 Cu. Yd.	1.5	2.5	2.0	4.0	1.5	2.0	3.0	1.5
8" 11 1/4°	.35 Cu. Yd.	1.0	2.5	1.5	2.0	1.0	1.5	2.0	1.0
22 1/2°	.7 Cu. Yd.	1.5	2.5	1.5	2.5	1.0	2.0	2.5	1.5
45°	1.4 Cu. Yd.	1.5	2.5	2.0	4.0	1.5	2.0	3.0	1.5
90°	2.6 Cu. Yd.	2.0	2.5	2.0	4.0	2.0	3.0	3.5	2.5
12" 11 1/4°	.8 Cu. Yd.	1.5	3.0	1.5	2.5	1.5	2.0	2.5	1.5
22 1/2°	1.6 Cu. Yd.	1.5	3.0	2.0	4.0	2.0	2.0	3.0	1.5
45°	3.2 Cu. Yd.	2.0	3.0	2.0	5.0	2.0	3.0	3.5	2.5
90°	6.0 Cu. Yd.	2.0	3.0	2.5	5.5	2.5	3.5	3.5	3.0
16" 11 1/4°	2.6 Cu. Yd.	2.0	3.5	4.5	4.1	1.0	2.5	2.0	3.0
22 1/2°	6.8 Cu. Yd.	2.5	3.5	4.5	5.7	1.0	3.5	2.5	4.0
45°	10.0 Cu. Yd.	3.5	3.5	6.0	7.8	1.5	3.5	3.0	4.0
90°	12.0 Cu. Yd.	3.0	3.5	6.0	8.0	2.0	3.5	3.5	4.0

**NOTE:** THE DEVELOPER MAY ELECT TO USE REINFORCING RODS AS OPPOSED TO CONCRETE THRUST BLOCKS FOR VERTICAL BENDS. ALL THRUST RESTRAINT BY ROD SHALL BE APPROVED BY THE WATER SYSTEM OPERATOR PRIOR TO INSTALLATION.



## VERTICAL THRUST BLOCK

N.T.S.

**NOTES:**

- 1) NO CONCRETE TO ENCOMPASS ANY BOLTS OR BELL ENDS WHERE POSSIBLE.
- 2) DIP FITTINGS SHALL BE WRAPPED WITH 2 MIL. THICK POLYETHYLENE, 2 FEET BEYOND FITTING ON PVC PIPE.
- 3) GRIP RING PIPE RESTRAINER, MODEL ROMAC xx-GRAP-IP SHALL BE USED AT ALL FITTING TO PVC, CI & DIP PIPE CONNECTIONS.

MARCH 2010

REVISIONS		TOWN OF BATAVIA
DATE	COMMENTS	
		WATER DETAILS
		VERTICAL THRUST BLOCK DETAIL
		DRAWING W-09