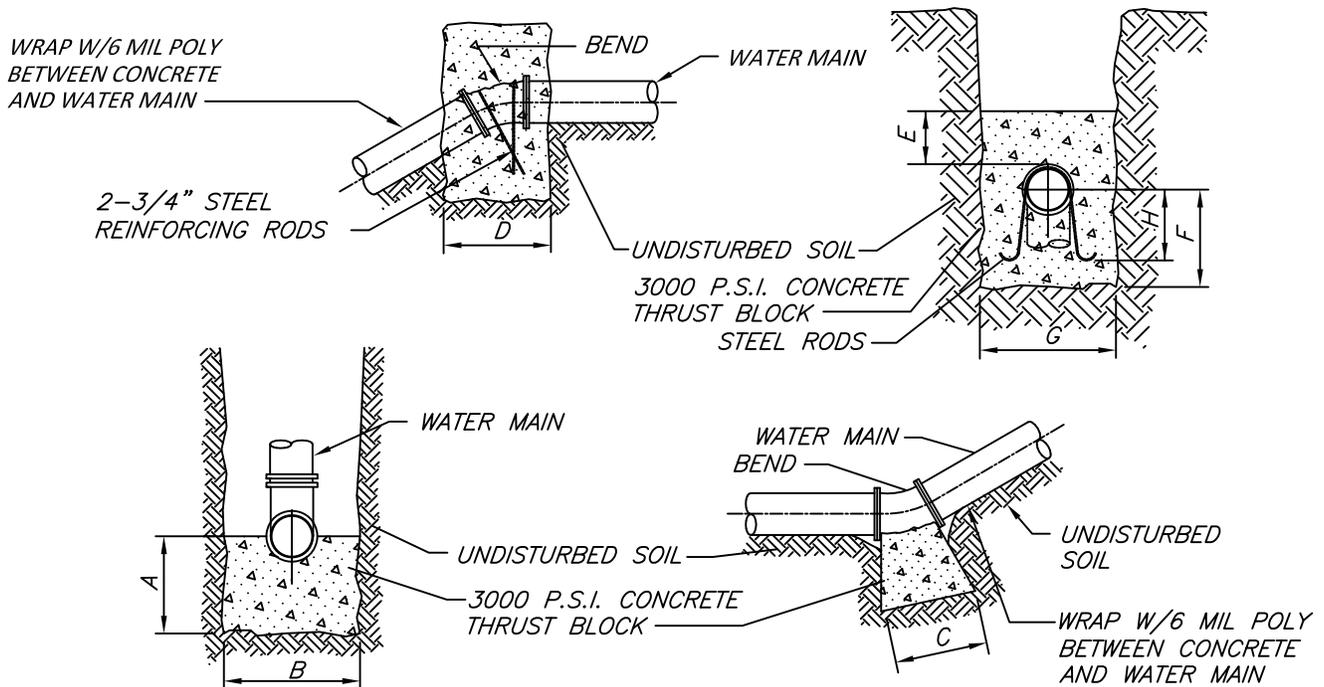


BEND	MIN. VOLUME OF CONCRETE FOR BLOCK DIMENSIONS D,E,F,G	MINIMUM ALLOWABLE DIMENSION FOR VERTICAL THRUST BLOCKS (IN FEET)							
		A	B	C	D	E	F	G	ROD LENGTH H
6" 11 1/4"	.2 Cu. Yd.	1.0	2.5	1.0	2.0	0.5	1.0	2.0	0.5
22 1/2"	.4 Cu. Yd.	1.0	2.5	1.5	2.0	1.0	2.0	2.0	1.5
45°	.8 Cu. Yd.	1.5	2.5	1.5	2.5	1.5	2.0	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:**



**NOTES:**

1. 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 AUTHORITY PRIOR TO INSTALLATION.
2. NO CONCRETE TO ENCOMPASS ANY BOLTS OR BELL ENDS WHERE POSSIBLE.
3. DIP FITTINGS SHALL BE WRAPPED WITH 6 MIL. THICK POLYETHYLENE, 2 FEET BEYOND FITTING ON PVC PIPE.
4. PIPE RESTRAINER SHALL BE USED AT ALL FITTING TO PVC, CI & DIP PIPE CONNECTIONS.

LIVINGSTON COUNTY WATER AND SEWER AUTHORITY

**VERTICAL THRUST BLOCK DETAIL**

NOT TO SCALE

ISSUED JUNE 1998  
 REVISED MARCH 2025

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