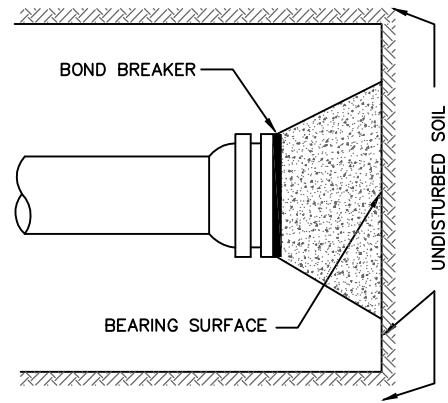
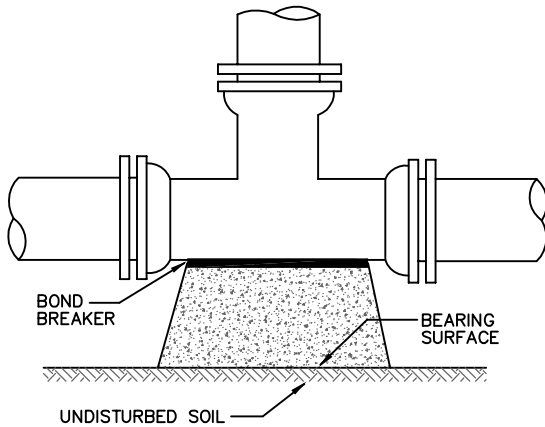


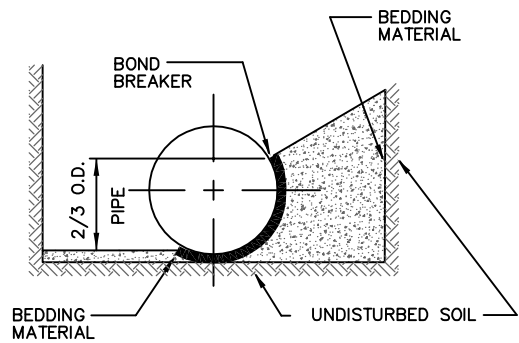
**11 1/4°, 22 1/2°, 45° AND 90° BENDS**



**DEAD END**



**TEE**



**TYPICAL CROSS SECTION**

**NOTES:**

1. ON 16" AND LARGER TRANSMISSION MAINS BENDS SHALL BE BOTH RODDED AND THRUST BLOCKED.
2. BEARING SURFACES SHOWN IN CHART ARE MINIMUM.
3. BASED ON 150 PSI INTERNAL PIPE PRESSURE PLUS WATER HAMMER = 150PSI.  
     12" WATER HAMMER = 110 PSI.  
     16" AND LARGER WATER HAMMER = 70 PSI.
4. SOIL BEARING CAPACITY = 3,000 LB./SQ. FT.
5. ALL 90 DEGREE BENDS SHALL BE RODDED AND THRUST BLOCKED.
6. NA = NOT APPLICABLE.

**MINIMUM BEARING SURFACE AREA (FT<sup>2</sup>)**

PIPE SIZE	B E N D S				TEE OR DEAD END
	11 1/4'	12-22 1/2'	23-45'	46-90'	
6"	1.0	1.5	2.5	4.5	3.5
8"	1.0	2.5	4.5	8.0	5.5
10"	2.0	3.5	7.0	12.5	9.0
12"	2.5	5.0	9.5	17.5	12.5
16"	4.5	8.5	17.0	31.0	22.5
18"	5.5	11.0	21.5	39.5	28.5
20"	7.0	13.5	27.0	49.0	35.0
24"	10.0	19.5	38.5	70.5	50.0

REVISED 10-08-03 CADD DRAWING BY GTS CONSULTANTS, INC.

DATE: JAN. 1991  
 DRAWN: G.G.&J.T.R.  
 SCALE: NONE

**LAKWOOD TOWNSHIP  
 MUNICIPAL UTILITIES AUTHORITY**

**CONCRETE THRUST  
 BLOCK DETAIL**