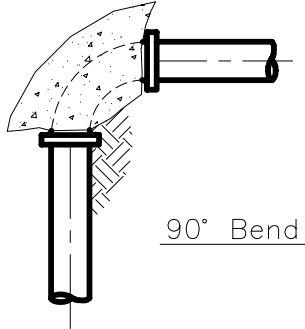


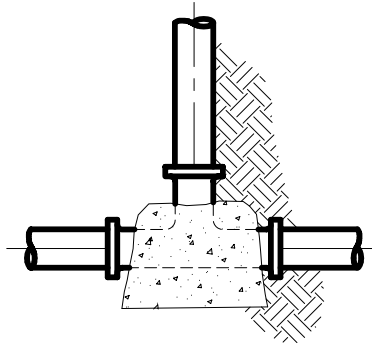


Thrust Block Requirements

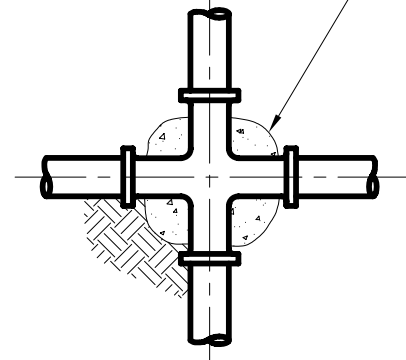
No thrusting on cross except where ends are plugged.



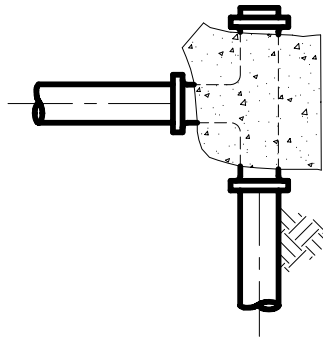
90° Bend



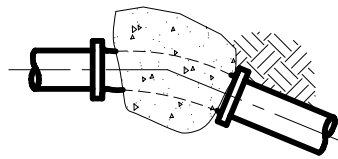
Tee



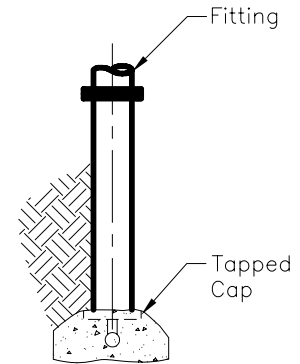
Cross



Plugged Tee

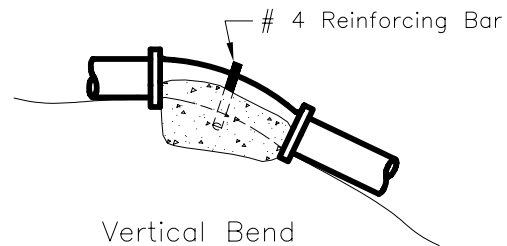


45° or 22½°
Horizontal Bend



Blow off

Minimum Thrust Block Bearing Areas In Square Feet				
Pipe Sizes	90°	45°	22½°	Tees & Blow Off
6"	3	2	2	2
8"	4	3	2	3
10"	6	4	3	4
12"	8	5	3	6
14"	12	7	4	8



Vertical Bend

Notes:

1. Concrete shall be 2000 PSI minimum at 28 days.
2. Thrust blocks shall be placed against undisturbed earth.
3. All fittings shall be supported in concrete.
4. For fire hydrant thrusting see Std. Plan 401.
5. Don't cover flange bolts with concrete.
6. Mechanically restrained joints as required by the City. See Material List Page 2.
7. Wrap all fittings and flanges with Visqueen.

Dr. KT	No. 1	Date 9/25	Revision ADDED NOTE #7	Appr.	Approved By: <i>F. Wally Sandelin</i>	Date 9/25/02	STD PLAN 405
Ch. WS					F. Wally Sandelin City Engineer R.C.E. 39895		
Date 12/00							