

CONCRETE THRUST BLOCKS

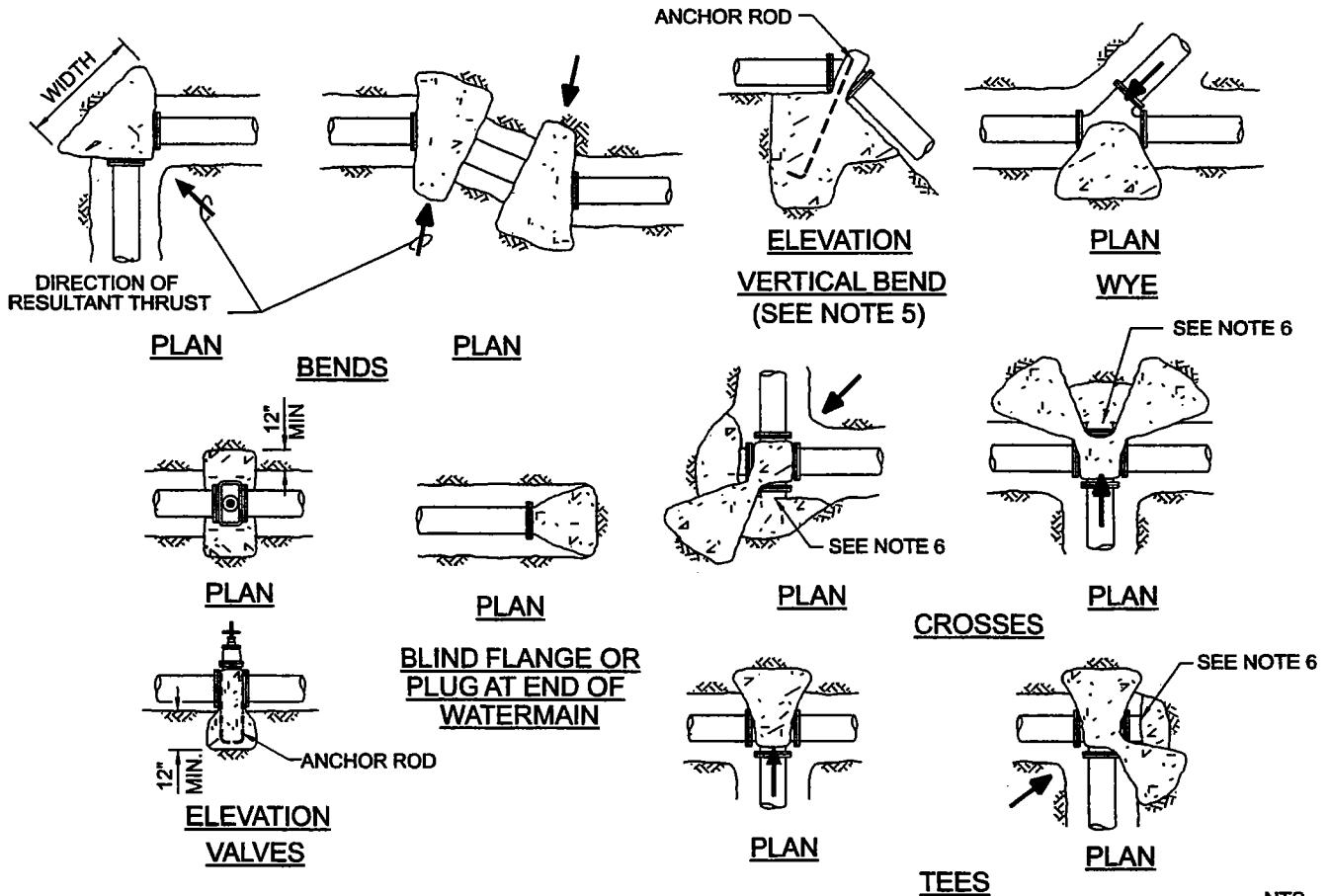


TABLE I

MINIMUM BEARING AREAS IN SQ FT *				
MAIN SIZE	TEE **	90° BEND	45° BEND	22 1/2° BEND
6"	4	4	4	3
8"	5	7	4	3
10"	9	12	6	4
12"	12	16	9	6

* BASED ON 150 PSI WWP PRESSURE & SOIL BEARING LOADS OF 2000 PSF. THE RATIO OF WIDTH TO HEIGHT SHALL NOT EXCEED 1 1/2 TO 1.

** TEES, PLUGS, CAPS, AND HYDRANTS.

TABLE II

*** SOIL TYPE	**** MAX ALLOWABLE SOIL BEARING VALUES	FACTORS FOR INCREASING AREAS IN TABLE 1
LOOSE SAND	500 PSF	4
SOFT SANDY CLAY	1000 PSF	2
ADOBE	1000 PSF	2
COMPACT FINE SAND	2000 PSF	1
COMPACT COARSE SAND	2000 PSF	1
MEDIUM STIFF CLAY	2000 PSF	1

*** THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE SAFE SOIL BEARING VALUES AND THE POSITION AND SIZE OF BEARING AREAS.

**** BASED ON 2 FEET MINIMUM DEPTH OF COVER OVER THE PIPE.

GENERAL NOTES:

1. ALL ANCHOR AND THRUST BLOCKS SHALL BEAR AGAINST UNDISTURBED SOIL.
2. MINIMUM ALLOWABLE WATER PRESSURE FOR DESIGN OF THRUST BLOCKS IS 150 PSI. BEARING AREA INCREASES DIRECTLY WITH INCREASE IN PRESSURE.
3. ALL CONCRETE USED IN THRUST BLOCKS SHALL ATTAIN 2000 PSI STRENGTH.
4. ALL ANCHOR RODS SHALL BE REINFORCING STEEL AND A MINIMUM OF 1/2 INCH IN DIAMETER.
5. USE ANCHOR BLOCKS AT VERTICAL BENDS WHEN PIPE IS ABOVE OR BELOW GROUND. SIZE OF BLOCK AND ROD SHALL BE AS SHOWN ON THE PLANS OR AS DETERMINED BY THE DISTRICT.
6. USE 30 POUND FELT TO INSURE COLD JOINT.
7. CONCRETE SHALL NOT COME INTO DIRECT CONTACT WITH ASBESTOS-CEMENT PIPE.
8. FOR PIPE GREATER THAN 12" IN DIAMETER, ENGINEER IS TO SUBMIT CALCULATIONS FOR APPROVAL.

LOS ANGELES COUNTY WATERWORKS DISTRICTS

DEPARTMENT OF PUBLIC WORKS

STANDARD PLAN

W-21

APPROVED

[Signature]
ASSISTANT DEPUTY DIRECTOR

APRIL 2004

DATE

SHEET 1 OF 1