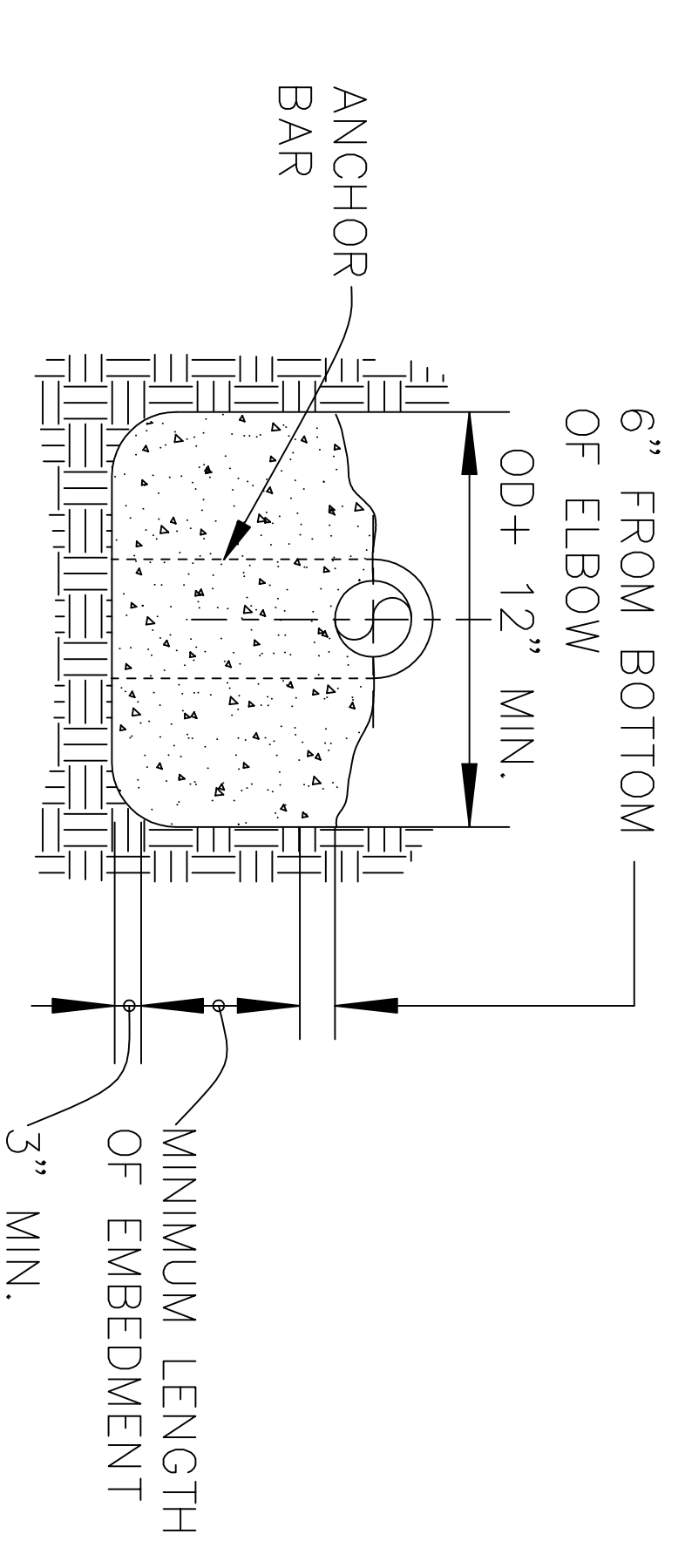


TEE
BEARING AREA
TYPICAL

BEND—HORIZONTAL OR
BOTTOM OF VERTICAL

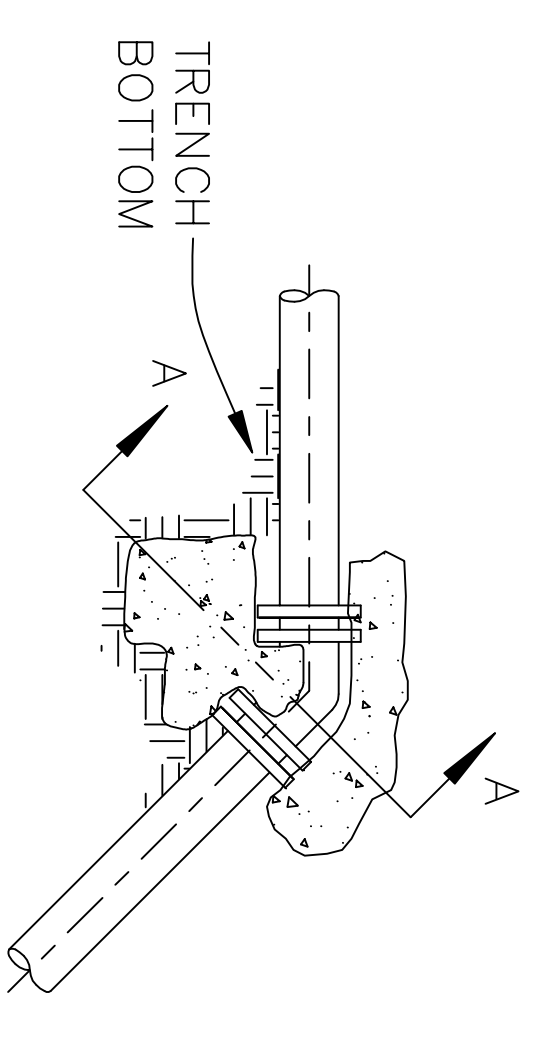
TEE W/ DEAD
END ON RUN



6" FROM BOTTOM
OF ELBOW
OD+ 12" MIN.

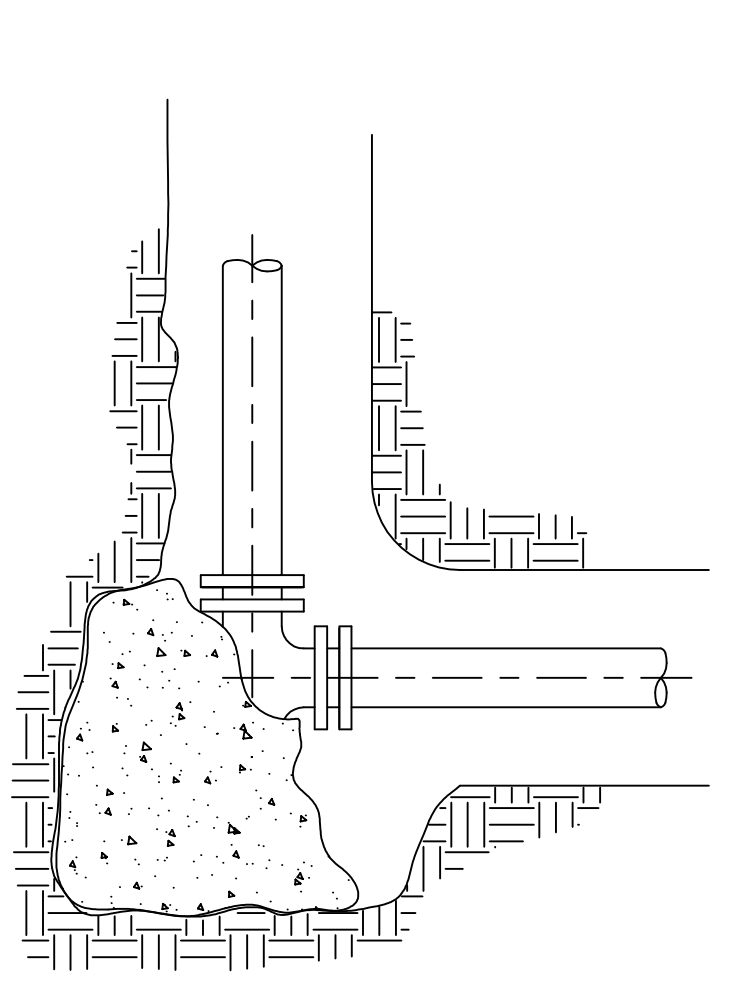
MINIMUM LENGTH
OF EMBEDMENT
3" MIN.

SECTION A-A

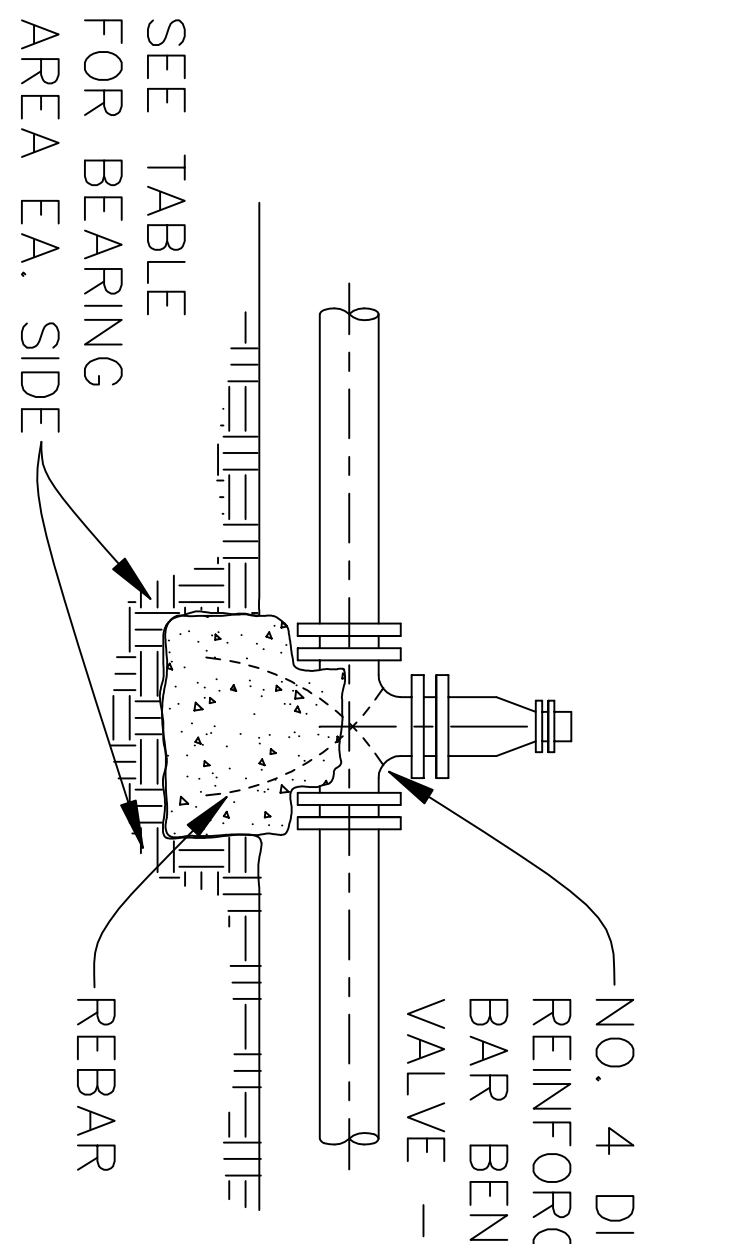


TOP OF VERT. BEND

SECTION A-A		MIN. LENGTH OF EMBEDMENT
LESS THAN	NO. OF BARS & SIZE	8"
60 CF	NO. 4	12"
90 CF	NO. 5	16"
133 CF	NO. 6	



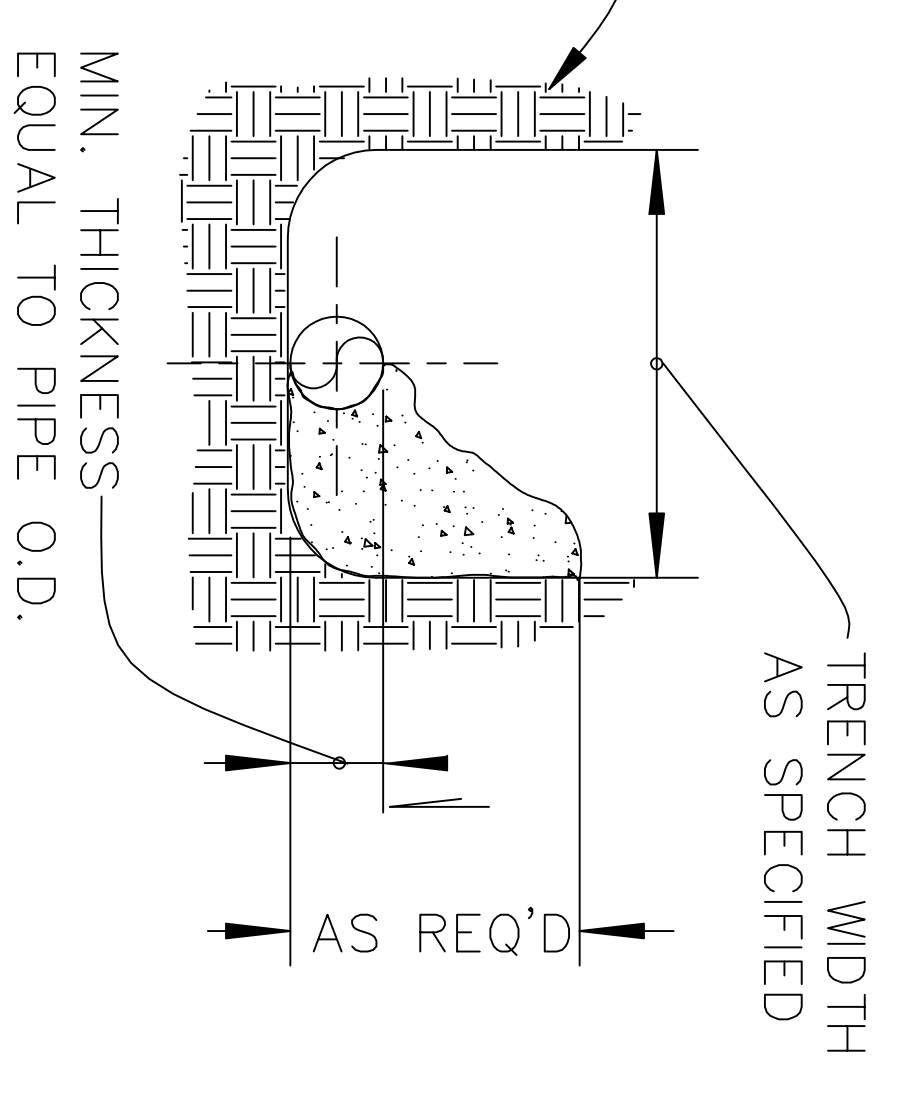
90 DEGREE BEND



VALVE
(GATE OR BUTTERFLY)

NO. 4 DIA. STEEL
REINFORCED ANCHOR
BAR BENT OVER
VALVE - 2-REQ'D

SEE TABLE FOR
AREA OF CONCRETE
TO BEAR ON
UNDISTRIBUTED
EARTH



SECTION (TYPICAL)

THRUST BLOCK DESIGN DATA

PIPE SIZE	BENDS AND FITTINGS & BEARING AREAS IN FT ²				
	90° BEND	TEE	45° ELBOW	22 1/2° BEND 11 1/4° BEND	DEAD END
3"	1.33	1.00	.67	.40	.25
4"	2.40	1.67	1.10	.67	.40
6"	5.40	5.75	2.50	1.50	.80
8"	9.50	6.70	5.20	2.70	1.33
10"	15.00	10.30	7.00	4.10	2.00
12"	20.50	13.90	8.80	5.50	2.67
16"	31.50	21.10	12.40	8.30	4.01

SOIL BEARING PRESSURE (PSF)	MULTIPLIER
1000	= 2.0
1500	= 1.33
2000	= 1.0
3000	= 0.67

1. THRUST BLOCK BEARING AREA REQUIRED (SQ. FT.) = MULTIPLIER x VALUE FROM TABLE.
EXAMPLE: FOR A 8", 45° ELBOW AND 1000 PSI SOIL BEARING, THE THRUST BLOCK BEARING AREA IS: 5.20 x 2.0 = 10.40 SQ. FT.

NOTES FOR DRAWINGS:

1. AT DEAD ENDS, WRAP FITTINGS WITH TAR PAPER, FELT, OR HEAVY KRAFT PAPER TO PROVIDE BOND BREAK BETWEEN CONCRETE AND FITTINGS.
2. ALL THRUST BLOCKING SHALL BE CAST-IN-PLACE CONCRETE HAVING A MINIMUM YIELD STRENGTH OF 3000 P.S.I.
3. THRUST BLOCKING SHALL BE CAST AGAINST UNDISTURBED EARTH. FORMS SHALL BE USED AS REQUIRED TO OBTAIN ADEQUATE BEARING AREA AND TO CONFINE THE CONCRETE. THRUST BLOCKING SHALL BEAR ON THE FITTING OR END CAP ONLY AND SHOULD NOT BE ALLOWED TO SPILL OVER THE JOINT OR AGAINST THE PIPE.
4. MEGA-LUGS OR OTHER JOINT RESTRAINT MAY BE USED ALONG WITH OR IN PLACE OF CONCRETE THRUST BLOCKS WITH DESIGN SUBMITTED BY PROFESSIONAL ENGINEER AND APPROVED BY LOCAL WATER DEPARTMENT.
5. ALL DUCTILE IRON PIPING TO HAVE POLYETHYLENE SLEEVE.

DRAWN: DPS	<p align="center">DENVER PUBLIC SCHOOLS DEPARTMENT OF FACILITIES MANAGEMENT</p> <p align="center">BACKFLOW PREVENTER STANDARDS PIPE ANCHORING AND THRUST BLOCK DETAILS</p>	DWG. NO.	15431-P11	
CHECKED: DPS		REV.	0	
APPROVED: DPS		SHEET:	11	12
DATE: 11/20/03		OF:		
SCALE: NONE				