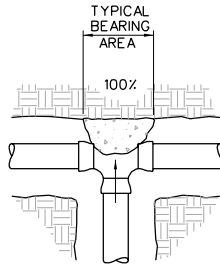
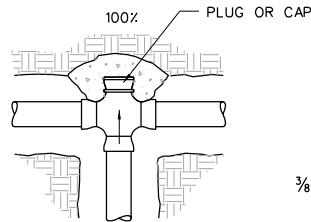


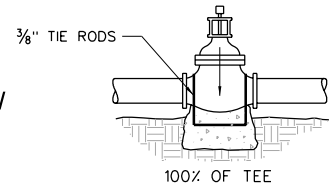
DEAD END PLAN VIEW



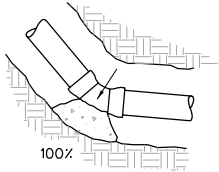
TEE PLAN VIEW



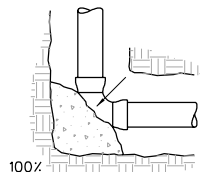
CROSS W/PLUG PLAN VIEW



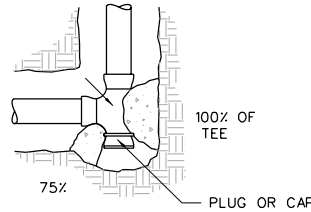
VALVE ELEVATION VIEW



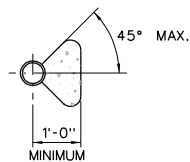
ELBOW PLAN VIEW



ELBOW PLAN VIEW



TEE W/PLUG PLAN VIEW

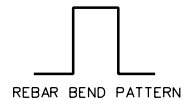


TYPICAL SECTION THRU THRUST BLOCK

2 \*5 REBAR WRAPPED AROUND ELBOW AND COMPLETELY ENCASED IN CONCRETE

WEIGHT OF CONCRETE TO RESIST 100% OF TOTAL THRUST

GRAVITY THRUST BLOCK ELEVATION VIEW



NOTES:

1. THE FIGURE (100%) AT THE THRUST BLOCK INDICATES PER CENT OF TOTAL THRUST TO BE APPLIED FOR BEARING AREA.
2. THE ARROW (→) INDICATES THRUST DIRECTION.
3. CONCRETE FOR THRUST BLOCKS TO BE 3000 P.S.I..
4. ALL MJ AND FLANGED FITTINGS TO BE WRAPPED WITH 12 MIL POLYETHYLENE PRIOR TO PLACING CONCRETE THRUST BLOCK
5. WHERE SUFFICIENT BEARING SURFACE IS NOT AVAILABLE FOR THRUST BLOCK, MEGALUG THRUST RESTRAINING GLANDS MAY BE USED. MEGALUG THRUST RESTRAINING GLANDS SHALL BE INSTALLED PER MANUFACTURER'S RECOMENDATION INCLUDING ANY JOINT RESTRAINT. ANY USE OF MEGALUG OR CHANGE TO THE THRUST BEARING CHART MUST BE REVIEWED BY THE ENGINEER.

TABLE 1

Use when line pressure and soil bearing strength are known.

Line Pressure: \_\_\_\_\_ psi  
Test Pressure (Sf = 1.5): \_\_\_\_\_ psi  
Soil Bearing Strength: \_\_\_\_\_ psf  
(Soil Bearing Strength determined from a geotechnical investigation.)

Side Thrust (lbs.) per 1 psi line pressure

Pipe Size	Pipe Area*	Dead End or Tee	90° Bend	45° Bend	22.5° Bend	11.25° Bend
(")	(sq.in.)	(lbs.)	(lbs.)	(lbs.)	(lbs.)	(lbs.)
4	14.39	22	31	17	9	5
6	32.17	49	69	37	19	10
8	56.88	86	121	66	34	17
10	86.92	131	185	100	51	26
12	124.29	187	264	143	73	37
14	168.33	253	358	194	99	50
16	219.56	330	466	253	129	65
18	277.59	417	589	319	163	82
20	342.41	514	727	394	201	101
24	490.09	736	1,040	563	287	145
30	757.69	1,137	1,608	870	444	223

Example for Table 1:

8-inch 90° bend

Line Pressure = 100 psi

From Table: Thrust per 1 psi = 121 lbs.

Calculate Total Thrust: 100 psi x 121lbs/psi = 12,100 lbs

Soil Bearing Strength = 2,000 psf

Area of bearing required for thrust block is 6.1 sq. ft. (12,100 lbs / 2,000 psf = 6.1 sq.ft.)

\* Pipe area is based on largest actual inside diameter of ductile iron pipe.

TABLE 2

Use when line pressure and soil bearing strength are not known.

Line Pressure: 120 psi  
Test Pressure (Sf = 1.5): 180 psi  
Soil Bearing Strength: 1,500 psf

Area of Bearing Required (sq.ft.)

Pipe Size	Pipe Area*	Dead End or Tee	90° Bend	45° Bend	22.5° Bend	11.25° Bend
(")	(sq.in.)	(sq.ft.)	(sq.ft.)	(sq.ft.)	(sq.ft.)	(sq.ft.)
4	14.39	1.7	2.4	1.3	0.7	0.3
6	32.17	3.9	5.5	3.0	1.5	0.8
8	56.88	6.8	9.7	5.2	2.7	1.3
10	86.92	10.4	14.8	8.0	4.1	2.0
12	124.29	14.9	21.1	11.4	5.8	2.9
14	168.33	20.2	28.6	15.5	7.9	4.0
16	219.56	26.3	37.3	20.2	10.3	5.2
18	277.59	33.3	47.1	25.5	13.0	6.5
20	342.41	41.1	58.1	31.4	16.0	8.1
24	490.09	58.8	83.2	45.0	22.9	11.5
30	757.69	90.9	128.6	69.6	35.5	17.8



STATEMENT OF USE

THIS DOCUMENT AND ANY ILLUSTRATIONS HEREON ARE PROVIDED AS STANDARD CONSTRUCTION DETAILS WITHIN LINDON CITY. DEVIATION FROM THIS DOCUMENT REQUIRES APPROVAL OF LINDON CITY. LINDON CITY CORPORATION AND J-U-B ENGINEERS CAN NOT BE HELD LIABLE FOR MISUSE OR CHANGES REGARDING THIS DOCUMENT.

REVISION

NO.	DESCRIPTION	BY	APR.	DATE



THRUST BLOCK DETAILS

LINDON CITY  
100 NORTH STATE

STANDARD DRAWING NUMBER: 15  
CAD DWG: LC StdBwgs.dgn  
PLOT SCALE: 1,000  
DRAWN BY: MJJ  
DESIGN BY: DCT  
CHECKED BY: DCT  
ADOPTED DATE: 5 MAY '98