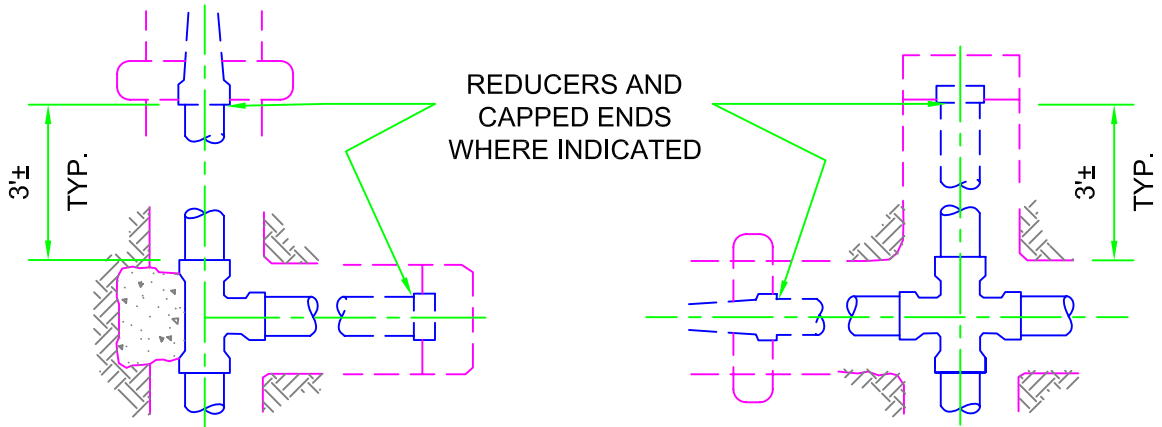


Standard Plate Drawings

Not all of the Typical Water Plate Drawings are included here because several do not apply to the construction of non-potable mains and services. Only applicable drawings have been included as listed here and on the Camrosa web page for non-potable specifications.

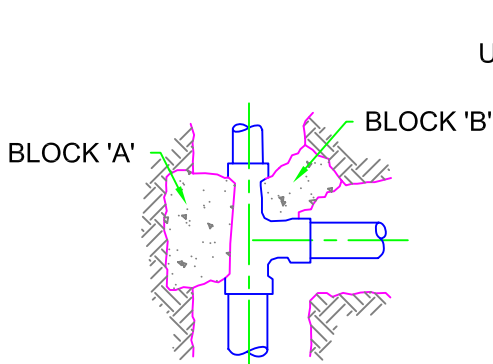
- W-1** Thrust Block Layouts for Typical Ductile Fittings
- W-2** Thrust Block Sizing for Horizontal Pressures
- W-3** Thrust Block Sizing for Reducers and Tees
- W-4** Thrust Blocks for Dead-end Ring-tite Pipe
- W-5** Thrust Blocks for Vertical Bends
- W-6** Thrust Block Sizing for Vertical Bends
- W-7** Concrete Protector Wall
- W-8** Anchor Wall Detail
- W-9** Slope Protection Detail
- W-10** Trench Sections for Pipe and Guard Post Detail
- W-11** Trench Section and Concrete Encasement Detail
- W-17** Welded Steel Pipe, Connections to PVC and DIP Details
- W-18** Mechanical Tapping Sleeve and Tapping Valve for A.C., DIP, and PVC Pipe
- W-20** Tapping Valve on PVC (**Tentative**)
- W-22** Tee in PVC, Transite, or Ductile Main with One Leg Dead-ended
- W-23** Cast Iron Cross and Valving Details
- W-24** Cast Iron Cross, Flanged and/or Ring-Tite Valves
- W-25** Valve Details for Inline or Lateral Pipes
- W-26** Valve Box Details
- W-27** Typical Valve Box Installation
- W-30** Typical End Drain and Blow-off with Copper Tubing
- W-31** Main Ending in Cul-de-Sac with Service Connections and End Drain (Blow-off)
- W-32** Large Blow-offs, 4" to 6"
- W-33** Air and Vacuum Release (Air/Vac) 1"
- W-34** Air and Vacuum Release 2"
- W-35** Air and Vacuum Release 4" and Larger
- W-35-1** Cabinet for Large Air/Vacs.
- W-37** Connections to PVC or AC Pipes, 2" and Smaller
- W-38** Connections to DIP, 2" and Smaller
- W-39** Typical Service Installations, Without Meters, 1", 1 ½", and 2"
- W-40** Typical Service Installations
- W-41** Typical Service Installations with Meters
- W-42** Meter Box Locations Relative to Sidewalks
- W-47** Two ¾" or 1" Meters from a Single Service Line, New Construction
- W-50** Typical Structure Installation, (Meter Box, Air/Vac, Fire Hydrant) in a Slope
- W-51** Allowable Leakage Chart
- W-55** Sanitary Protection for Water Mains Crossing Sewers
- W-56** Trench Section, for Separation of Water Mains and Sewers
- W-57** (Future)
- W-58** (Future)

D.I.P. FITTINGS AND THRUST BLOCK LAYOUT

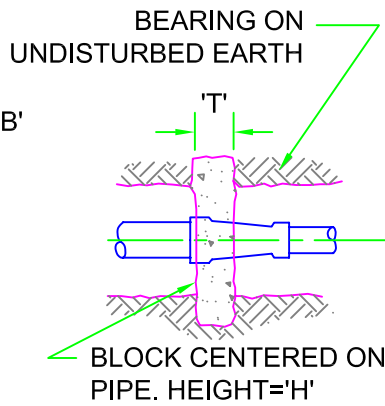


TEE

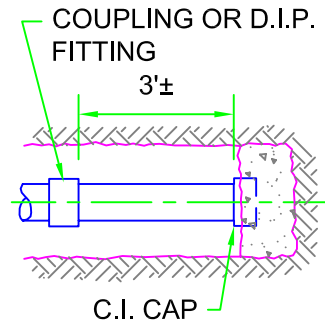
CROSS



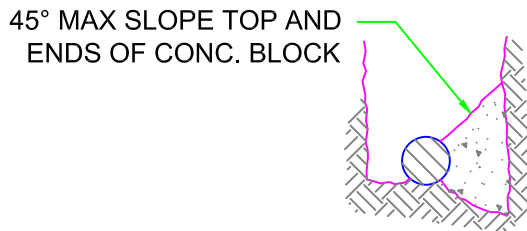
TEE REDUCING IN LINE



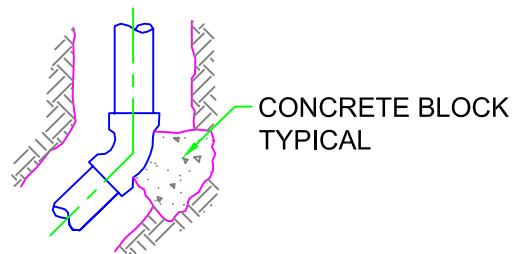
REDUCER



CAPPED END



SECTION THRUST BLOCK



HORIZONTAL ELBOW

NOTE:

1. ALL FITTINGS SHALL BE D.I.P. GROOVED FOR RUBBER GASKET JOINTS.
2. CONCRETE BLOCKS SHALL BEAR ON UNDISTURBED EARTH.
3. SEE DRAWINGS W-2 AND W-3 FOR SIZES OF CONCRETE BLOCKS.

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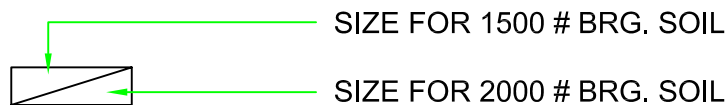
DISTRICT STANDARD **W-1**

REVISED: March 1, 2007

THRUST BLOCK SIZES FOR HORIZONTAL PRESSURES

PIPE DIA.	PIPE CLASS	PRESS P.S.I.	AREA		SQUARE		FEET							
			TEE	CAP	LINE VALVE	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND					
4	200	150	2.5	1.9	2.5	1.9	3.5	2.7	1.9	1.5	1.0	0.8	1.0	0.8
	200	175	2.8	2.1	2.8	2.1	4.0	3.0	2.2	1.6	1.1	0.9	1.1	0.9
	200	200	3.1	2.3	3.1	2.3	4.4	3.3	2.3	1.8	1.2	0.9	1.2	0.9
6	200	150	5.1	3.8	5.1	3.8	7.2	5.4	3.9	3.0	2.0	1.5	2.0	1.5
	200	175	5.7	4.3	5.7	4.3	8.1	6.1	4.4	3.3	2.3	1.7	2.3	1.7
	200	200	6.4	4.8	6.4	4.8	9.0	6.8	4.9	3.7	2.5	1.9	2.5	1.9
8	200	150	8.8	6.6	8.8	6.6	12.4	9.3	6.8	5.1	3.4	2.6	3.4	2.6
	200	175	9.9	7.5	9.9	7.5	14.0	10.5	7.6	5.7	3.9	2.9	3.9	2.9
	200	200	11.0	8.3	11.0	8.3	15.5	11.7	8.4	6.3	4.3	3.2	4.3	3.2
10	200	150	14.4	10.8	14.4	10.8	20.3	15.2	11.0	8.3	5.6	4.2	5.6	4.2
	200	175	16.2	12.1	16.2	12.1	22.8	17.1	12.4	9.3	6.3	4.7	6.3	4.7
	200	200	18.0	13.5	18.0	13.5	25.4	19.0	13.4	10.3	7.0	5.3	7.0	5.3
12	200	150	20.5	15.4	20.5	15.4	28.9	21.7	15.7	11.8	8.0	6.0	8.0	6.0
	200	175	23.0	17.3	23.0	17.3	32.5	24.4	17.6	13.2	9.0	6.7	9.0	6.7
	200	200	25.5	19.2	25.5	19.2	36.1	27.1	19.6	14.7	9.9	7.5	9.9	7.5

NOTE:
USE SIZES FOR 1500 BRG. SOIL UNLESS HIGHER VALUE IS SUBSTANTIATED BY APPROVED SOILS REPORT.



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DISTRICT STANDARD **W-2**


REVISED: March 1, 2007

THRUST BLOCK SIZES FOR REDUCERS AND TEES

THRUST BLOCK SIZES FOR REDUCERS AND TEES										
REDUCERS										
PIPE CLASS	PRESSURE P.S.I.	SIZE	DIMENSIONS - FT.			SIZE	DIMENSIONS - FT.			
			X	H	T		X	H	T	
200	150	12x10	12" 8"	3'-0"	2'-0"	12"	9" 8"	2'-6"	2'-4"	12"
200	175		12" 9"	3'-0"	2'-6"	12"	12" 8"	3'-0"	2'-4"	12"
200	200		12" 9"	3'-0"	2'-6"	12"	12" 9"	3'-0"	2'-6"	12"
200	150	8x6	8" 8"	2'-0"	2'-0"	12"	8" 8"	2'-0"	2'-0"	12"
200	175		9" 8"	2'-6"	2'-0"	12"	8" 8"	2'-0"	2'-0"	12"
200	200		9" 8"	2'-6"	2'-0"	12"	8" 8"	2'-0"	2'-0"	12"
TEE, REDUCING IN LINE										
PIPE CLASS	PRESSURE P.S.I.	SIZE	AREA - SQ.FT.				SIZE	AREA - SQ.FT.		
			BLK."A"		BLK."B"			BLK."A"	BLK."B"	
200	150	12x10 x10	14.4	10.8	4.4	3.3	8.8	6.6	4.0	3.0
200	175		16.2	12.1	4.9	3.7	9.9	7.4	4.5	3.4
200	200		18.0	13.5	5.4	4.1	11.0	8.2	5.0	3.7
200	150	8x6 x6	5.1	3.8	2.7	2.8	2.5	1.9	1.9	1.5
200	175		5.8	4.4	3.0	2.3	2.8	2.1	2.2	1.6
200	200		6.4	4.8	3.4	2.5	3.1	2.4	2.4	1.8

NOTE:

1. SHOULD THE IN LINE REDUCTION BE GREATER THAN ONE SIZE, THRUST BLOCK AREA B SHALL BE THE SUM OF AREAS SHOWN FOR SIZES AS THOUGH REDUCTION WERE IN TWO OR MORE STEPS.

2.  SIZE FOR 1500 # BRG. SOIL
SIZE FOR 2000 # BRG. SOIL

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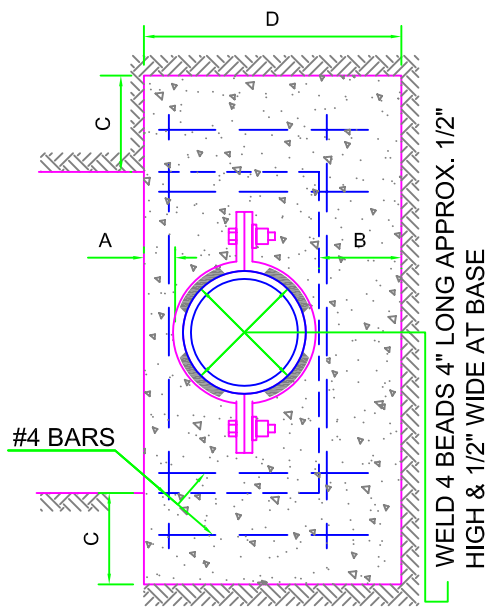
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DISTRICT
STANDARD **W-3**

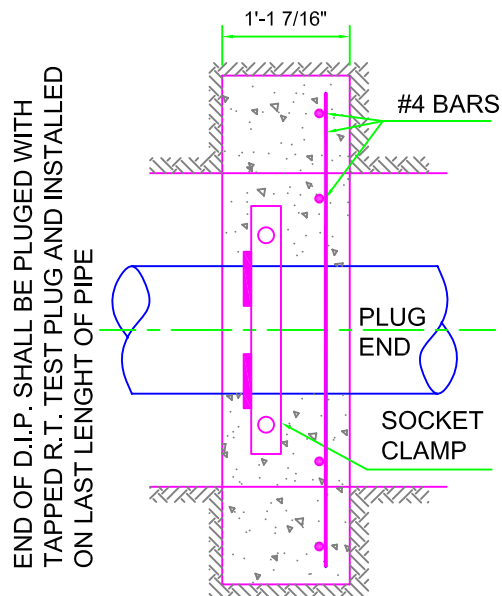
REVISED: March 1, 2007

STANDARD THRUST BLOCK FOR DEADEND RING-TITE D.I.P. OR STEEL PIPE

PIPE SIZE (IN.)	LINE PRESSURE P.S.I.	1500 POUNDS PER SQUARE FOOT BEARING SOIL				2000 POUNDS PER SQUARE FOOT BEARING SOIL			
		A	B	C	D	A	B	C	D
6"	150	6"	8"	15"	20"	6"	6"	12"	18"
6"	200	8"	8"	18"	22"	6"	8"	14"	20"
8"	150	7"	8"	24"	23"	6"	8"	18"	22"
8"	200	8"	12"	24"	28"	6"	8"	24"	22"
10"	150	13"	15"	23"	35"	8"	10"	24"	28"
10"	200	16"	16"	28"	42"	12"	13"	24"	35"
12"	150	16"	15"	30"	43"	12"	15"	24"	39"
12"	200	15"	15"	40"	42"	13"	15"	30"	40"



ELEV.



PLAN

END OF STEEL PIPE SHALL HAVE STEEL CAP WITH 2"
HALF WELDING COUPLING FOR BLOW-OFF.

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W-5

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