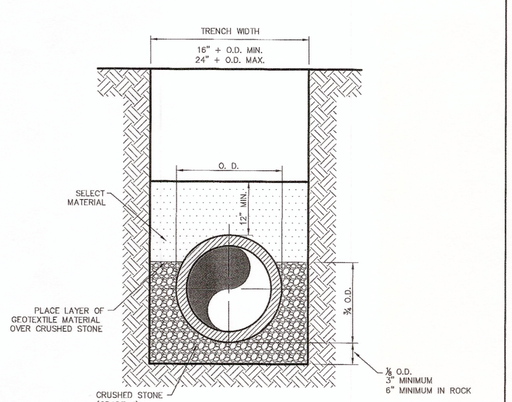
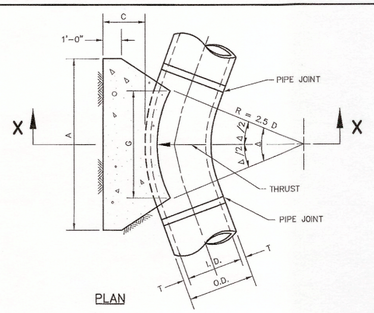


CLASS "B+" EMBEDMENT

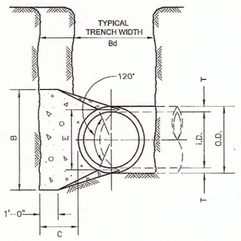
CRUSHED STONE SHALL BE 3/4", PASSING # 4 SIEVE

TYPICAL P.V.C. WATER MAIN EMBEDMENT

PUBLIC WORKS DEPARTMENT	P.V.C. WATER MAIN EMBEDMENT	STANDARD CONSTRUCTION DETAILS WATER		
		DATE: AUGUST, 2010	REV DATE: –	SHEET : SD-W01



PLAN



SECTION X–X

PUBLIC WORKS DEPARTMENT	HORIZONTAL THRUST BLOCK AT PIPE BEND	STANDARD CONSTRUCTION DETAILS WATER		
		DATE: AUGUST, 2010	REV DATE: –	SHEET : SD-W04

I.D. (IN.)	T (IN.)	Δ = 11.25° (FT.)	Δ = 22.50° (FT.)	E (FT.)
4,6,8	0.4	1.5	1.5	0.9
10,12	0.5	1.5	1.5	1.2
16,18	0.6	1.5	1.5	1.6
20	0.7	1.5	1.5	1.8
24	0.9	1.5	1.5	2.1
30	2.9	1.5	1.9	2.6
36	4.5	1.5	2.3	3.3
42	5.0	1.8	2.6	3.8
48	5.5	2.0	3.0	4.3
54	6.0	2.3	3.4	4.8
60	6.5	2.5	3.8	5.3
66	6.8	2.8	4.1	5.7
72	7.5	3.0	4.5	6.3
78	7.5	3.3	4.9	6.7
84	8.0	3.5	5.3	7.2
90	8.5	3.8	5.6	7.7
96	9.0	4.0	6.0	8.2

	Δ = 11.25°						Δ = 22.50°						
			EARTH		ROCK				EARTH		ROCK		
I.D. (IN.)	G (FT.)	THRUST (TONS)	A (FT.)	B (FT.)	A (FT.)	B (FT.)	I.D. (IN.)	G (FT.)	THRUST (TONS)	A (FT.)	B (FT.)	A (FT.)	B (FT.)
4,6,8	0.4	1.0	1.0	1.5	1.0	1.0	4,6,8	0.8	2.0	1.5	1.5	1.0	1.0
10,12	0.6	2.2	1.5	1.5	1.0	1.5	10,12	1.1	4.4	2.0	2.5	1.5	1.5
16,18	0.8	5.0	2.0	2.5	1.5	2.0	16,18	1.6	9.9	3.0	3.5	2.0	2.5
20	0.9	6.2	2.0	3.5	1.5	3.0	20	1.8	12.3	3.5	3.5	2.0	3.0
24	1.1	8.9	3.0	3.5	1.5	3.0	24	2.2	17.7	4.0	4.5	3.0	3.5
30	1.4	10.4	3.0	3.5	2.0	3.5	30	2.7	20.7	5.0	4.5	3.0	4.0
36	1.7	15.0	3.5	4.5	2.0	4.0	36	3.3	29.8	5.5	5.5	4.0	4.0
42	1.9	20.4	4.5	5.0	2.5	5.0	42	3.8	40.5	7.0	6.0	4.5	5.0
48	2.2	28.8	4.5	6.0	2.0	2.5	48	4.4	52.9	8.0	7.0	5.7	4.5
54	2.5	33.7	6.0	6.0	3.0	3.0	54	4.9	67.0	9.0	8.0	6.0	6.0
60	2.7	41.6	6.0	7.0	3.8	3.0	60	5.5	82.7	9.5	9.0	10.6	6.0
66	3.0	50.3	6.5	8.0	5.1	3.5	66	6.0	100.1	10.5	10.0	14.1	6.5
72	3.3	59.9	7.5	8.0	6.3	4.0	72	6.6	119.1	11.0	11.0	17.6	7.5
78	3.6	70.2	8.0	9.0	8.1	4.0	78	7.1	139.8	12.0	12.0	22.5	8.0
84	3.8	81.5	8.5	10.0	10.3	4.5	84	7.6	162.1	13.0	12.5	27.2	8.5
90	4.1	93.5	9.5	10.0	12.2	5.0	90	8.2	186.1	14.0	13.5	33.7	9.5
96	4.4	106.4	10.0	11.0	15.0	5.0	96	8.7	211.7	15.0	14.5	41.2	10.0

	VOL. (C.Y.)	VOL. (C.Y.)
I.D. (IN.)	A (FT.)	B (FT.)
4,6,8	0.1	0.1
10,12	0.1	0.1
16,18	0.3	0.2
20	0.4	0.3
24	0.5	0.3
30	0.8	0.4
36	1.3	0.5
42	2.1	0.8
48	2.8	1.1
54	4.1	1.5
60	5.3	2.1
66	7.2	3.0
72	9.1	4.2
78	11.7	5.3
84	14.8	6.4
90	17.7	8.1
96	21.8	9.5

TABLES OF DIMENSIONS AND QUANTITIES

PUBLIC WORKS DEPARTMENT	HORIZONTAL THRUST BLOCK DIMENSIONS & QUANTITIES	STANDARD CONSTRUCTION DETAILS WATER		
		DATE: AUGUST, 2010	REV DATE: –	SHEET : SD-W05

	Δ = 30°							Δ = 45°						
			EARTH		ROCK					EARTH		ROCK		
I.D. (IN.)	G (FT.)	THRUST (TONS)	A (FT.)	B (FT.)	A (FT.)	B (FT.)	I.D. (IN.)	G (FT.)	THRUST (TONS)	A (FT.)	B (FT.)	A (FT.)	B (FT.)
4,6,8	1.0	2.6	2.0	1.5	1.0	1.5	4,6,8	1.5	3.9	2.0	2.0	1.5	1.5
10,12	1.5	5.9	2.5	2.5	2.0	1.5	10,12	2.2	8.7	3.5	2.5	2.0	2.5
16,18	2.2	13.2	3.5	4.0	2.5	3.0	16,18	3.2	19.5	4.5	4.5	3.0	3.5
20	2.4	16.3	4.5	4.0	3.0	3.0	20	3.6	24.1	5.5	4.5	3.5	3.5
24	2.9	23.4	6.0	4.0	3.5	3.5	24	4.3	34.6	8.0	4.5	4.5	4.0
30	3.6	27.5	6.5	5.0	3.5	4.0	30	5.4	40.6	8.5	5.0	5.5	4.0
36	4.4	39.5	7.0	6.0	4.5	4.5	36	6.5	58.5	10.0	6.0	6.5	4.5
42	5.1	53.8	8.0	7.0	5.5	5.0	42	7.5	79.6	11.5	7.0	8.1	8.0
48	5.8	70.3	9.0	8.0	6.0	6.0	48	8.6	104.0	13.0	8.0	11.9	9.0
54	6.5	89.0	10.0	9.0	10.3	7.0	54	9.7	131.5	15.0	9.0	17.1	10.5
60	7.3	110.0	11.0	10.0	13.9	7.5	60	10.7	162.4	16.5	10.0	23.1	11.0
66	8.0	132.9	12.5	11.0	18.9	8.5	66	11.8	198.5	18.0	11.0	30.1	12.0
72	8.7	158.2	13.5	12.0	24.0	9.0	72	12.9	233.9	19.5	12.0	38.6	14.0
78	9.4	185.6	14.5	13.0	30.0	10.0	78	13.9	274.5	21.5	13.0	49.8	14.5
84	10.1	215.3	15.5	14.0	37.1	10.5	84	15.0	318.4	23.0	14.0	61.2	15.5
90	10.9	247.1	16.5	15.0	45.0	11.5	90	16.1	365.5	24.5	15.0	74.5	17.5
96	11.6	281.2	18.0	16.0	55.5	12.5	96	17.1	415.6	26.0	16.0	89.5	18.5

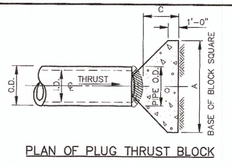
	VOL. (C.Y.)	VOL. (C.Y.)
I.D. (IN.)	A (FT.)	B (FT.)
4,6,8	0.2	0.1
10,12	0.3	0.2
16,18	0.6	0.3
20	0.7	0.4
24	1.1	0.5
30	1.6	0.7
36	2.6	1.0
42	3.6	1.5
48	4.2	1.8
54	5.9	2.5
60	6.3	2.7
66	8.9	3.8
72	10.7	4.6
78	12.9	5.5
84	14.8	6.4
90	16.8	7.2
96	19.0	8.2

	Δ = 67.50°							Δ = 90°						
			EARTH		ROCK					EARTH		ROCK		
I.D. (IN.)	G (FT.)	THRUST (TONS)	A (FT.)	B (FT.)	A (FT.)	B (FT.)	I.D. (IN.)	G (FT.)	THRUST (TONS)	A (FT.)	B (FT.)	A (FT.)	B (FT.)
4,6,8	2.1	5.6	3.0	2.0	2.0	1.5	4,6,8	2.7	7.1	5.0	1.5	0.4	2.0
10,12	3.1	12.6	5.5	2.5	0.8	3.5	10,12	4.0	16.0	6.5	2.5	1.0	3.5
16,18	4.7	28.3	7.5	4.0	1.9	5.5	16,18	6.0	36.0	9.0	4.0	2.4	4.5
20	5.2	34.9	9.0	4.0	2.3	5.5	20	6.6	44.4	10.0	4.5	3.1	5.0
24	6.2	50.3	11.5	4.5	3.5	6.5	24	7.9	64.0	14.5	4.5	5.0	8.0
30	7.8	58.9	12.0	5.0	4.8	7.5	30	9.9	75.0	15.0	5.0	6.7	10.0
36	9.4	84.9	14.5	6.0	8.2	9.5	36	11.9	108.0	18.0	6.0	11.4	12.0
42	10.9	115.5	17.0	7.0	12.8	11.0	42	13.9	147.0	21.0	7.0	17.8	14.0
48	12.5	150.9	19.0	8.0	18.4	13.0	48	15.9	192.0	24.0	8.0	26.2	16.0
54	14.0	191.0	21.5	9.0	26.0	15.0	54	17.9	243.0	27.0	9.0	36.9	18.0
60	15.6	235.8	24.0	10.0	35.6	16.0	60	19.9	299.8	30.0	10.0	50.3	20.0
66	17.1	285.3	26.0	11.0	46.0	18.0	66	21.8	362.8	33.0	11.0	66.2	22.0
72	18.7	339.5	28.5	12.0	57.8	19.0	72	23.8	431.8	36.0	12.0	85.6	24.0
78	20.2	398.5	31.0	13.0	75.7	21.0	78	25.7	506.7	39.0	13.0	108.2	26.0
84	21.8	462.1	33.5	14.0	94.7	22.0	84	27.7	587.7	42.0	14.0	134.4	28.0
90	23.3	530.5	35.5	15.0	114.4	24.5	90	29.0	674.6	45.0	15.0	164.9	30.0
96	24.9	603.6	38.0	16.0	138.9	25.5	96	31.6	767.5	48.0	16.0	199.0	32.0

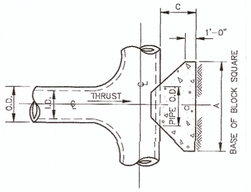
	VOL. (C.Y.)	VOL. (C.Y.)
I.D. (IN.)	A (FT.)	B (FT.)
4,6,8	0.2	0.2
10,12	0.5	0.5
16,18	1.0	1.0
20	1.5	1.5
24	2.1	2.1
30	3.3	3.3
36	5.3	5.3
42	8.7	8.7
48	12.4	12.4
54	18.1	18.1
60	24.0	24.0
66	32.5	32.5
72	41.0	41.0
78	53.2	53.2
84	64.8	64.8
90	81.2	81.2
96	95.1	95.1

TABLES OF DIMENSIONS AND QUANTITIES

PUBLIC WORKS DEPARTMENT	HORIZONTAL THRUST BLOCK DIMENSIONS & QUANTITIES	STANDARD CONSTRUCTION DETAILS WATER		
		DATE: AUGUST, 2010	REV DATE: –	SHEET : SD-W06



PLAN OF PLUG THRUST BLOCK



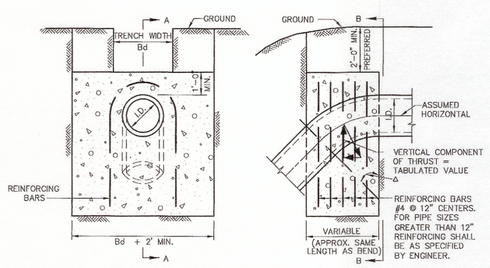
PLAN OF TEE THRUST BLOCK

	EARTH		ROCK	
I.D. (IN.)	THRUST (TONS)	C (FT.)	A (FT.)	VOL (C.Y.)	A (FT.)	VOL (C.Y.)
4,6,8	5.1	1.5	2.5	0.3	2.0	0.2
10,12	11.3	1.5	3.5	0.6	2.5	0.3
16,18	25.5	2.0	5.5	1.6	4.0	0.9
20	31.5	2.0	6.0	1.9	4.0	0.9
24	45.2	2.5	7.0	3.1	5.0	1.7
30	53.0	3.0	7.5	4.1	5.5	2.4
36	76.3	4.0	9.0	7.3	6.5	4.2
42	104.0	4.5	10.5	11.0	7.5	6.2
48	136.0	5.0	12.0	15.6	8.5	8.7

	EARTH		ROCK	
I.D. (IN.)	THRUST (TONS)	C (FT.)	A (FT.)	VOL (C.Y.)	A (FT.)	VOL (C.Y.)
54	172.0	5.5	13.5	21.4	9.5	11.9
60	212.0	6.0	15.0	28.4	10.5	15.7
66	257.0	6.5	16.5	36.8	11.5	20.5
72	305.0	7.5	17.5	47.2	12.5	27.2
78	358.0	8.0	19.0	58.9	13.5	33.7
84	416.0	8.5	20.5	72.3	14.5	41.2
90	477.0	9.0	22.0	87.7	15.5	49.7
96	543.0	9.5	23.5	104.8	16.5	61.0

TABLES OF DIMENSIONS AND QUANTITIES

PUBLIC WORKS DEPARTMENT	HORIZONTAL THRUST BLOCK AT TEES & PLUGS	STANDARD CONSTRUCTION DETAILS WATER		
		DATE: AUGUST, 2010	REV DATE: –	SHEET : SD-W07

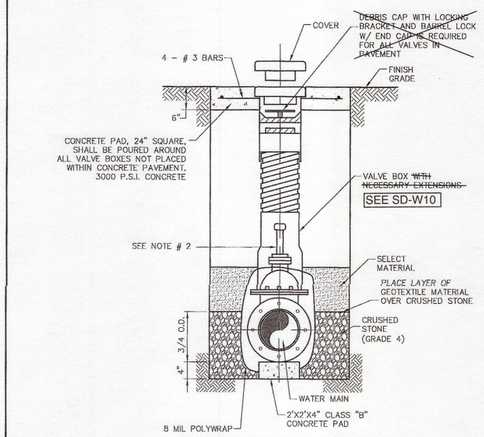


ELEVATION "B–B" SECTION "A–A"

Δ	11.25°		22.50°		30°		45°		67.50°		90°		Δ
I.D. (IN.)	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)	I.D. (IN.)
4,6,8	1.0	0.5	2.0	1.0	2.5	1.3	3.6	1.8	4.6	2.3	5.0	2.5	4,6,8
10,12	2.2	1.1	4.3	2.2	5.7	2.8	8.0	4.0	10.5	5.2	11.3	5.7	10,12
16,18	5.0	2.5	9.7	4.9	12.7	6.4	18.0	9.0	23.5	11.8	25.5	12.7	16,18
20	6.1	3.1	12.0	6.0	15.7	7.9	22.2	11.1	29.2	14.5	31.4	15.7	20
24	8.2	4.4	17.3	8.7	22.6	11.3	32.0	16.0	41.8	20.9	45.2	22.6	24
30	10.5	5.2	20.3	10.1	26.5	13.3	37.5	18.8	49.0	24.5	53.1	26.5	30
36	14.9	7.5	29.2	14.6	38.2	19.1	54.0	27.0	70.5	35.3	76.4	38.2	36
42	20.3	10.1	39.8	19.9	52.0	26.0	73.5	36.7	96.0	48.0	104.0	52.0	42
48	26.5	13.2	51.9	26.0	67.9	33.9	96.0	48.0	126.0	62.7	136.0	67.9	48
54	33.5	16.8	65.7	32.9	85.9	42.9	122.0	60.7	159.0	79.4	172.0	85.9	54
60	41.4	20.7	81.2	40.6	106.0	53.0	150.0	75.0	196.0	98.0	212.0	106.0	60
66	50.1	25.0	98.2	49.1	128.0	64.2	182.0	90.7	237.0	119.0	257.0	128.0	66
72	59.6	29.8	117.0	58.4	153.0	76.3	216.0	108.0	282.0	141.0	305.0	153.0	72
78	69.9	35.0	137.0	68.6	179.0	90.0	254.0	127.0	331.0	166.0	358.0	179.0	78
84	81.1	40.5	159.0	79.5	208.0	104.0	294.0	147.0	384.0	192.0	416.0	208.0	84
90	93.1	46.5	183.0	91.3	239.0	119.0	337.0	169.0	441.0	221.0	477.0	239.0	90
96	106.0	53.0	208.0	104.0	272.0	136.0	384.0	192.0	502.0	251.0	543.0	272.0	96

VERTICAL THRUST BLOCK

PUBLIC WORKS DEPARTMENT	VERTICAL THRUST BLOCK AT PIPE BEND	STANDARD CONSTRUCTION DETAILS WATER		
		DATE: AUGUST, 2010	REV DATE: –	SHEET : SD-W08



TYPICAL VALVE SETTING & BOX

NOTE:
1. 4"–12" R.S. GATE VALVES SHALL BE IN ACCORDANCE WITH TOWN OF ADDISON WATER SYSTEM REQUIREMENTS.
2. A PERMANENTLY ATTACHED VALVE EXTENSION STEM SHALL BE REQUIRED FOR ANY VALVE WHERE THE OPERATING NUT IS LOCATED IN EXCESS OF 5 FEET BELOW THE TOP OF VALVE BOX. THIS EXTENSION SHALL BE OF SUFFICIENT LENGTH TO INSURE THAT ITS TOP IS WITHIN 5 FEET OF VALVE BOX LID.
3. BLUE "V" (3") CUT INTO FACE OF NEAREST CURB AND POINTING TOWARD THE VALVE.
4. ALL IRON MATERIALS SHALL BE DOMESTIC. (MADE IN USA)
5. CRUSHED STONE SHALL BE 3/4", PASSING #4 SIEVE.

PUBLIC WORKS DEPARTMENT	VALVE SETTING ~~Box~~	STANDARD CONSTRUCTION DETAILS WATER		
		DATE: AUGUST, 2010	REV DATE: 04/06/17	SHEET : SD-W09

BENCHMARKS:

BM#1
BRASS DISC AT THE SOUTHWEST CORNER OF A 10' CURB INLET, ON THE WEST SIDE OF QUORUM DRIVE, 186 FEET ± SOUTH OF EDWIN LEWIS ROAD AS SHOWN.
ELEVATION = 630.11

RAYMOND L. GOODSON JR., INC.
CONSULTING ENGINEERS
12001 N. CENTRAL EXPRESSWAY, SUITE 300
DALLAS, TEXAS 75243 214/739-8100
E-MAIL: rlg@rlginc.com FIRM REG: F-493

STATE OF TEXAS
R. PHILLIP BRUGGER
120083
LICENSED
PROFESSIONAL ENGINEER
10/16/18

ADDISON

APPROVED FOR CONSTRUCTION
INFRASTRUCTURE & DEVELOPMENT SERVICES
BY:
DATE: 10/16/18

IN APPROVING THESE PLANS, THE TOWN OF ADDISON ASSUMES NO RESPONSIBILITY FOR THEIR ADEQUACY, WHICH REMAINS WITH THE ENGINEER OF RECORD.

16801 WESTGROVE DRIVE, ADDISON, TX 75001 - (972) 450-2871

SHEET NO.

C6.01

WATER DETAILS

WESTERN INTERNATIONAL OFFICE BUILDING

WESTERN INTERNATIONAL

MAYSE & ASSOCIATES INC.

TOWN OF ADDISON, TEXAS

DESIGN	DRAWN	DATE	SCALE	XREF	FILE	NO.
RLG	RLG	10/16/18	N/A	1813.013	1813	013
JOB NO.	1813.013	SUBMITTAL:				

P:\Civil\2013\1813.001 Western International Office Building – Redesign\Civil\CAD\SD WATER DETAILS.dwg 10/15/2018 10:47:22 AM Cavana, Edgar