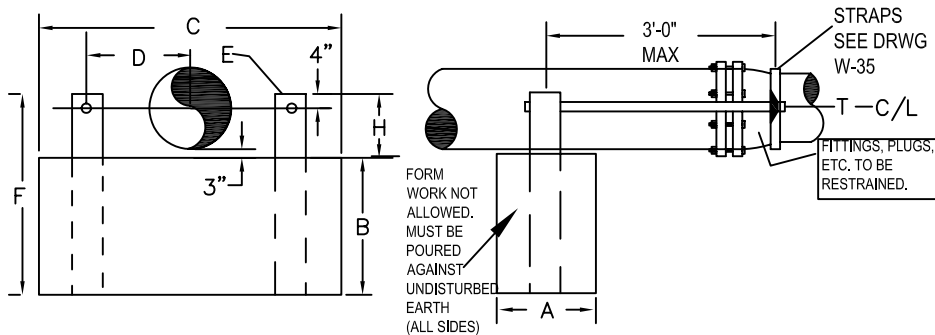


BEND DEGREES	SIZE	A (FT)	B (FT)	C (IN)	D (FT)	VOLUME CU.YDS APPROX	THRUST LBS
	6"	1.0	2.0	6	1.0	0.04	1,385
	8"	1.0	2.0	7	1.0	0.05	2,465
	10"	1.0	2.0	9	1.0	0.07	3,850
11 1/4	12"	1.0	2.5	11	1.5	0.12	5,550
	14"	2.0	2.5	11	2.0	0.24	7,550
	16"	2.0	2.5	12	2.0	0.26	9,860
	20"	2.0	3.5	15	2.5	0.48	15,405
	24"	2.0	4.0	18	3.0	0.7	22,185
	6"	1.0	2.0	6	1.0	0.04	2,760
	8"	1.0	2.0	7	1.5	0.06	4,905
	10"	1.0	2.0	9	2.0	0.1	7,665
22 1/2	12"	1.0	3.0	11	2.0	0.16	11,040
	14"	2.0	3.5	11	2.5	0.37	15,025
	16"	2.0	3.5	12	3.0	0.45	19,625
	20"	2.0	4.0	15	4.0	0.74	30,665
	24"	3.0	5.0	18	4.5	1.47	44,160
	6"	1.0	2.0	6	1.5	0.06	5,415
	8"	1.0	2.5	7	2.0	0.1	9,625
	10"	2.0	3.5	9	2.5	0.31	15,040
45	12"	2.0	3.5	11	3.0	0.41	21,655
	14"	2.0	4.0	11	3.75	0.56	29,475
	16"	3.0	5.0	12	4.0	1.45	38,495
	20"	4.0	6.0	15	5.0	2.06	60,145
	24"	4.0	7.5	18	6.5	3.35	91,610
	6"	1.0	2.5	12	2.0	0.13	10,005
	8"	2.0	3.0	14	3.0	0.38	17,785
	10"	2.5	4.5	18	3.0	0.74	27,785
90	12"	3.0	5.0	20	4.0	1.24	40,010
	14"	3.0	5.5	24	5.0	1.77	54,460
	16"	4.0	6.5	26	5.5	2.91	71,125
	20"	4.0	8.0	32	7.0	4.68	111,135
	24"	5.0	10.0	40	8.0	8.5	160,035
	6"	1.0	2.5	12	1.5	0.1	7,070
	8"	1.7	3.25	14	2.0	0.27	12,565
	10"	2.0	4.0	18	2.5	0.5	19,635
TEES AND PLUGS	12"	2.5	4.5	20	3.25	0.91	28,275
	14"	3.0	5.0	24	4.0	1.41	38,485
	16"	3.0	5.0	26	5.0	1.77	50,265
	20"	4.0	7.0	32	5.75	3.69	78,540
	24"	6.0	9.0	40	6.5	7.94	113,100

- NOTES:
1. BASED ON ROD AND NUT HAVING YIELD STRENGTH OF 96,000 PSI.
 2. SOIL BEARING CAPACITY OF 2000 PSI.
 3. RODS TO HAVE 6" OF THREADS ON ENDS.
 4. ALL METAL TO BE CLEANED AND COATED WITH APPROVED PROTECTIVE COATING FOLLOWING INSTALLATION AND PRIOR TO BACKFILLING.



REVISIONS

City of Cumming
 Department of Utilities - Distribution and Collection Division

**THRUST RESTRAINT
 "DEAD MAN" CONCRETE TYPE**



W-31