

SIDE TAPERED INLET

CONCRETE PIPE

STEEL PIPE

GENERAL DIMENSIONS										2:1 SLOPE DIMENSIONS					2:1 SLOPE EST. QUAN.		4:1 SLOPE DIMENSIONS					4:1 SLOPE EST. QUAN.	
D	T	SKEW	θ	H	J	G	E _F	E _B	K _R	W _R	K _L	W _L	Y	CLASS "A" CONC. C.Y.	REINF. STEEL-LBS	K _R	W _R	K _L	W _L	Y	CLASS "A" CONC. C.Y.	REINF. STEEL-LBS	
15"	6"	45°	30°	10"	10"	2'9"	2'4 1/2"	3'5 1/4"	3'0"	3'7 3/8"	1'6 1/2"	1'11 1/2"	4'7"	1.08	170	6'0"	6'7 3/8"	3'3 1/2"	3'5 3/8"	6'0"	1.68	221	
		60°	45°	10"	10"	2'9"	2'4 1/2"	3'5 1/4"	2'2"	2'9 3/4"	1'6 1/2"	1'11 1/2"	3'10"	.93	163	4'3"	4'10 3/8"	3'1 1/4"	3'5 1/4"	5'3 3/8"	1.43	198	
		75°	45°	10"	10"	2'9"	2'4 1/2"	3'3 3/4"	2'2"	2'7 3/4"	1'7 1/2"	2' 1/2"	4'5 1/4"	.92	159	4'3"	4'8 3/8"	3'2 3/4"	3'7 3/4"	6'5 1/4"	1.44	198	
		90°	tan ⁻¹ 4/3	10"	10"	2'9"	2'4 1/2"	3'2 1/2"	1'10 1/2"	2'3 3/8"	1'10 1/2"	2'3 3/8"	4'7 3/8"	.91	158	3'9"	4'2"	3'9"	4'2"	6'10 1/2"	1.43	202	
18"	6"	45°	30°	10"	10"	2'9"	2'9"	3'9 3/4"	4'0"	4'7 3/8"	2' 1/4"	2'5 1/4"	5'0"	1.33	199	8'0"	8'7 3/8"	4' 1/2"	4'5 1/2"	7'2 1/8"	2.19	263	
		60°	45°	10"	10"	2'9"	2'9"	3'9 3/4"	2'10"	3'5 3/8"	2' 1/2"	2'5 1/2"	4'8 1/4"	1.16	176	5'7 3/8"	6'3 3/8"	4' 3/8"	4'5 3/8"	6'7 1/2"	1.86	236	
		75°	45°	10"	10"	2'9"	2'9"	3'7 3/4"	2'10"	3'3 3/4"	2'1 1/8"	2'7"	5'5 1/2"	1.16	175	5'7 3/8"	6'1 3/8"	4'3 3/8"	4'8 3/4"	8'2"	1.87	231	
		90°	tan ⁻¹ 4/3	10"	10"	2'9"	2'9"	3'7 3/8"	2'6"	2'11"	2'6"	2'11"	5'9"	1.15	170	5'0"	5'5"	5'0"	5'5"	8'9"	1.86	230	
24"	10"	45°	30°	16"	10"	2'9"	4'0"	5' 3/4"	6'0"	6'7 3/8"	3' 3/8"	3'5 3/8"	7'4 1/2"	2.56	284	12'0"	12'7 3/8"	6' 3/4"	6'5 3/4"	10'8 3/8"	4.26	425	
		60°	45°	16"	10"	2'9"	4'0"	5' 3/4"	4'2 1/2"	4'10 1/2"	3' 1/8"	3'5 1/8"	6'10 3/4"	2.21	264	8'5 3/8"	9'1 1/2"	6' 1/2"	6'5 1/2"	9'9 3/8"	3.61	369	
		75°	45°	16"	10"	2'9"	4'0"	4'10 3/4"	4'2 1/2"	4'8 3/8"	3'2 3/8"	3'7 3/8"	8' 3/4"	2.24	258	8'5 3/8"	8'11 1/8"	6'5 3/8"	6'10 3/8"	12'1 1/2"	3.66	368	
		90°	tan ⁻¹ 4/3	16"	10"	2'9"	4'0"	4'10 3/4"	3'9"	4'2"	3'9"	4'2"	8'6"	2.23	258	7'6"	7'11"	7'6"	7'11"	13'0"	3.65	368	
30"	10"	45°	30°	20"	10"	2'9"	4'9"	5'9 3/4"	6'0"	6'7 3/8"	3' 3/8"	3'5 3/8"	8'1 1/2"	2.87	306	12'0"	12'7 3/8"	6' 3/4"	6'5 3/4"	11'5 3/4"	4.72	451	
		60°	45°	20"	10"	2'9"	4'9"	5'9 3/4"	4'3"	4'10 3/8"	3' 1/4"	3'5 1/4"	7'7 3/8"	2.52	285	8'5 3/8"	9'1 1/2"	6' 3/8"	6'5 1/2"	10'6 3/8"	4.01	395	
		75°	45°	20"	10"	2'9"	4'9"	5'7 3/4"	4'3"	4'8 3/4"	3'2 3/8"	3'7 3/8"	8'9 3/8"	2.56	282	8'5 3/8"	8'11 1/8"	6'5 3/8"	6'10 3/8"	12'10 1/2"	4.08	396	
		90°	tan ⁻¹ 4/3	20"	10"	2'9"	4'9"	5'7"	3'9"	4'2"	3'9"	4'2"	9'3"	2.52	283	7'6"	7'11"	7'6"	7'11"	13'9"	4.05	407	
36"	10"	45°	30°	20"	10"	2'9"	5'6"	6'6 3/4"	8'0"	8'7 3/8"	4' 1/2"	4'5 1/2"	9'11 3/8"	3.72	371	16'0"	16'7 3/8"	8'1"	8'6"	14'5 3/8"	6.26	575	
		60°	45°	20"	10"	2'9"	5'6"	6'6 3/4"	5'7 3/8"	6'3 3/8"	4' 1/4"	4'5 1/4"	9'4 1/2"	3.23	340	11'3 3/8"	11'11 1/2"	8' 3/4"	8'5 3/4"	13'3 3/4"	5.30	497	
		75°	45°	20"	10"	2'9"	5'6"	6'4 3/4"	5'7 3/8"	6'1 3/8"	4'3 3/8"	4'8 3/8"	10'11"	3.25	340	11'3 3/8"	11'9 3/8"	8'7 1/2"	9' 1/2"	16'4"	5.28	499	
		90°	tan ⁻¹ 4/3	20"	10"	2'9"	5'6"	6'4"	5'0"	5'5"	5'0"	5'5"	16'11"	3.24	339	10'0"	10'5"	10'0"	10'5"	17'6"	5.35	507	
42"	10"	45°	30°	20"	1'1 1/2"	3'0"	6'3"	7'3 3/4"	10'0"	10'7 3/8"	5' 5/8"	5'5 3/8"	11'10 1/2"	4.88	451	20'0"	20'7 3/8"	10'1 1/4"	10'6 1/4"	17'5 3/8"	8.55	708	
		60°	45°	20"	1'1 1/2"	3'0"	6'3"	7'3 3/4"	7'1"	7'8 3/8"	5' 3/8"	5'5 3/8"	11'1 1/4"	4.22	406	14'1 3/4"	14'9 1/2"	10'1"	10'6"	15'11 1/2"	7.01	611	
		75°	45°	20"	1'1 1/2"	3'0"	6'3"	7'1 3/4"	7'1"	7'6 3/4"	5'4 3/4"	5'10 3/8"	13' 3/8"	4.28	406	14'1 3/4"	14'7 1/2"	10'9 3/8"	11'2 3/8"	19'9 3/8"	7.06	615	
		90°	tan ⁻¹ 4/3	20"	1'1 1/2"	3'0"	6'3"	7'1"	6'3"	6'8"	6'3"	6'8"	13'9"	4.26	414	12'6"	12'11"	12'6"	12'11"	21'3"	7.15	614	
48"	10"	45°	30°	20"	1'1 1/2"	3'0"	7'0"	8' 3/4"	12'0"	12'7 3/8"	6'1"	6'6"	13'9"	6.05	531	24'0"	24'7 3/8"	12'1 1/2"	12'6 1/2"	20'5 3/4"	10.15	850	
		60°	45°	20"	1'1 1/2"	3'0"	7'0"	8' 3/4"	8'5 3/8"	9'1 1/2"	6' 3/8"	6'5 3/8"	12'9 3/8"	5.13	469	16'11 3/4"	17'7 1/2"	12'1 1/2"	12'6 1/2"	18'7 3/4"	8.48	726	
		75°	45°	20"	1'1 1/2"	3'0"	7'0"	7'10 3/4"	8'5 3/8"	8'11 3/8"	6'5 3/4"	6'10 3/4"	15'1 1/2"	5.01	464	16'11 3/4"	17'5 1/2"	12'11 1/2"	13'4 1/4"	23'3"	8.64	738	
		90°	tan ⁻¹ 4/3	20"	1'1 1/2"	3'0"	7'0"	7'10"	7'6"	7'11"	7'6"	7'11"	16'0"	5.07	468	15'0"	15'5"	15'0"	15'5"	25'0"	8.66	740	
54"	10"	45°	30°	20"	1'1 1/2"	3'0"	7'9"	8'9 3/4"	14'0"	14'7 3/8"	7' 3/8"	7'5 3/8"	15'7 1/2"	6.93	609	28'0"	28'7 3/8"	14'1 3/8"	14'6 3/8"	23'5 3/4"	12.06	922	
		60°	45°	20"	1'1 1/2"	3'0"	7'9"	8'9 3/4"	9'10 3/8"	10'6 3/8"	7' 1/2"	7'5 1/2"	14'6 1/2"	5.94	538	19'9 3/4"	20'5 3/8"	14'1 3/8"	14'6 3/8"	21'4 1/4"	10.12	825	
		75°	45°	20"	1'1 1/2"	3'0"	7'9"	8'7 3/4"	9'10 3/8"	10'4 3/8"	7'6 3/4"	7'11 3/4"	17'2 3/8"	6.01	532	19'9 3/4"	20'3 1/2"	15'1 1/8"	15'6 1/8"	26'8 1/2"	10.22	862	
		90°	tan ⁻¹ 4/3	20"	1'1 1/2"	3'0"	7'9"	8'7 3/8"	8'9"	9'2"	8'9"	9'2"	18'3"	6.01	542	17'6"	17'11"	17'6"	17'11"	28'9"	10.25	853	
60"	1'3"	45°	30°	20"	1'3"	3'3"	8'9"	9'9 3/4"	17'0"	17'7 3/8"	8'7 3/8"	9' 3/8"	18'3 3/8"	9.47	739	34'0"	34'7 3/8"	17'2"	17'7 3/8"	27'10 3/8"	16.64	1,234	
		60°	45°	20"	1'3"	3'3"	8'9"	9'9 3/4"	12' 3/8"	12'8"	8'6 1/2"	8'11 1/2"	16'11 3/8"	8.07	639	24' 3/4"	24'8 3/8"	17'1 1/2"	17'6 3/8"	25'3 3/8"	13.84	1,040	
		75°	45°	20"	1'3"	3'3"	8'9"	9'7 3/4"	12' 3/8"	12'8"	9'2 1/2"	9'7 1/4"	21'3 3/4"	8.25	656	24' 3/4"	24'6 1/2"	18'3 3/8"	18'8 3/8"	32'2 3/8"	14.14	1,061	
		90°	tan ⁻¹ 4/3	20"	1'3"	3'3"	8'9"	9'7 3/8"	10'7 1/2"	11' 3/8"	10'7 1/2"	11' 3/8"	21'6 3/8"	8.19	663	21'3"	21'8"	21'3"	21'8"	34'3"	14.14	1,062	
66"	1'3"	45°	30°	20"	1'4 1/2"	3'6"	9'6"	10'6 3/4"	19'0"	19'7 3/8"	9'7 3/4"	10' 1/4"	20'2 3/8"	11.22	882	38'0"	38'7 3/8"	19'2 1/4"	19'7 3/8"	30'10 1/4"	19.79	1,498	
		60°	45°	20"	1'4 1/2"	3'6"	9'6"	10'6 3/4"	13'5 1/4"	14'1"	9'6 3/8"	9'11 3/8"	18'8 1/2"	9.54	756	26'10 3/8"	27'6 3/8"	19'1 3/8"	19'6 3/8"	27'11 1/4"	16.45	1,256	
		75°	45°	20"	1'4 1/2"	3'6"	9'6"	10'4 3/4"	13'5 1/4"	13'11"	10'3 3/8"	10'8 3/8"	22'4 1/2"	9.70	778	26'10 3/8"	27'4 1/2"	20'5 3/8"	20'10 3/8"	35'2 1/4"	16.79	1,283	
		90°	tan ⁻¹ 4/3	20"	1'4 1/2"	3'6"	9'6"	10'4 3/8"	11'10 1/2"	12'2 3/8"	11'10 1/2"	12'2 3/8"	23'9 3/2"	9.68	773	23'9"	24'2"	23'9"	24'2"	38'0"	16.82	1,293	
72"	1'6"	45°	30°	20"	1'9"	4'3"	10'6"	11'6 3/4"	22'0"	22'7 3/8"	11'1 3/8"	11'6 3/8"	22'10 3/8"	15.91	1,124	44'0"	44'7 3/8"	22'2 3/8"	22'7 3/8"	35'2 3/8"	28.09	1,909	
		60°	45°	20"	1'9"	4'3"	10'6"	11'6 3/4"	15'6 3/4"	16'2 1/2"	11' 3/4"	11'5 3/4"	21'2"	13.52	967	31'1 1/2"	31'9 1/2"	22'2"	22'7 3/8"	31'10 3/8"	23.33	1,601	
		75°	45°	20"	1'9"	4'3"	10'6"	11'4 3/4"	15'6 3/8"	16' 3/8"	11'10 1/2"	12'3 3/8"	25'4 3/8"	13.76	987	31'1 1/2"	31'7 3/8"	23'8 1/2"	24'1 1/2"	40'3 1/2"	23.84	1,637	
		90°	tan ⁻¹ 4/3	20"	1'9"	4'3"	10'6"	11'4 3/8"	13'9"	14'2"	13'9"	14'2"	27'0"	13.75	984	27'6"	27'11"	27'6"	27'11"	43'6"	23.87	1,632	
78"	1'6"	45°	30°	20"	1'10 1/2"	4'6"	11'3"	12'3 3/4"	24'0"	24'7 3/8"	12'1 1/2"	12'6 1/2"	24'8 3/4"	18.22	1,253	48'0"	48'7 3/8"	24'2 3/8"	24'7 3/8"	38'2 3/8"	32.26	2,153	
		60°	45°	20"	1'10 1/2"	4'6"	11'3"	12'3 3/4"	16'11 3/4"	17'7 1/4"	12' 3/4"	12'5 3/4"	22'10 1/2"	15.46	1,067	33'11 1/2"	34'7 1/2"	24'2 3/8"	24'7 1/4"	34'6 1/2"	26.78	1,798	
		75°	45°	20"	1'10 1/2"	4'6"	11'3"	12'1 3/4"	16'11 3/4"	17'5 1/2"	12'11 1/2"	13'7 1/2"	27'6 1/4"	15.77	1,097	33'11 1/2"	34'5 1/2"	25'10 3/8"	26'3 3/8"	43'9"	27.38	1,840	
		90°	tan ⁻¹ 4/3	20"	1'10 1/2"	4'6"	11'3"	12'1 3/8"	15'0"	15'5"	15'0"	15'5"	29'3"	15.74	1,099	30'0"	30'5"	30'0"	30'5"	47'3"	27.40	1,849	

GENERAL DIMENSIONS										2:1 SLOPE DIMENSIONS					2:1 SLOPE EST. QUAN.		4:1 SLOPE DIMENSIONS					4:1 SLOPE EST. QUAN.	
D	T	SKEW	θ	H	J	G	E _F	E _B	K _R	W _R	K _L	W _L	Y	CLASS "A" CONC. C.Y.	REINF. STEEL-LBS	K _R	W _R	K _L	W _L	Y	CLASS "A" CONC. C.Y.	REINF. STEEL-LBS	
15"	6"	45°	30°	10"	10"	2'9"	2'4 1/2"	3'5 1/4"	3'0"	3'7 3/8"	1'6 1/2"	1'11 1/2"	4' 3/8"	1.10	170	6'0"	6'7 3/8"	3' 3/8"	3'5 3/8"	6'0"	1.73	221	
		60°	45°	10"	10"	2'9"	2'4 1/2"	3'5 1/4"	2'2"	2'9 3/4"	1'6 1/2"	1'11 1/2"	3'10 3/8"	.98	163	4'3"	4'10 3/8"	3' 1/4"	3'5 1/4"	5'3 3/8"	1.48	198	
		75°	45°	10"	10"	2'9"	2'4 1/2"	3'3 3/4"	2'2"	2'7 3/4"	1'7 1/2"	2' 1/2"	4'5 1/4"	.97	159	4'3"	4'8 3/8"	3'2 3/4"	3'7 3/4"	6'5 1/4"	1.49	198	
		90°	tan ⁻¹ 4/3	10"	1																		