PRETX – PRETREATMENT FOR GREEN INFRASTRUCTURE (GI) PRACTICES

MODELS/SIZES	APPLICATION	INSIDE DIMENSIONS (WXLXH) - FT	TYPICAL DROP FROM EDGE OF PAVEMENT TO OUTLET SIDE	PEAK CONVEYANCE CAPACITY – CFS*	RECOMMENDED IMPERVIOUS DRAINAGE AREA**
PRETX-CURB					
2.5 FT MODEL	At the curb face/curb inlet opening	2.5X2.5X3.17	10"	3.5 CFS[A]	Up to 0.5 ACRE
4 FT MODEL	At the curb face/curb inlet opening	4X4X3.17	10"	5.2 CFS[A]	Up to 1.0 ACRE
4 FT MODEL - Double	At the curb face/curb inlet opening	4X4X3.17 (1) 4X4X3.17 (2)	10"	10.4 CFS[A]	Up to 2.0 ACRES
6 FT MODEL	At the curb face/curb inlet opening	6X6X6	10"	7.8 CFS[A]	Up to 2.0 ACRES
PRETX-DROP					
4 FT MODEL	Shallow pipe outlet to a above ground or below ground GI practice	4X4X4	25.5" for 12" PIPE 21" for 8" PIPE 19" for 6" PIPE	3.3 CFS[B] 5.4 CFS[C]	Up to 0.33 ACRE Up to 0.75 ACRE
PRETX-DROP LT					
3 FT MODEL	At the curb/horizontal grate	3X3X3	10-12"	2.8 CFS[D]	Up to 0.33 ACRE

*DEPENDS ON SEVERAL FACTORS AND ASSUMES FREE DISCHARGE CONDITIONS

** DEPENDS ON SEVERAL HYDROLOGIC FACTORS INCLUDING DESIGN RECURRENCE INTERVAL (ASSUMED 50-YR) AND 24-HR RAINFALL DISTRIBUTION TYPE (I, II or III)

A – CAPACITY IS RESTRICTED BY THE CURB MOUTH AT A PONDING DEPTH EQUAL TO TOP OF CURB, CURB HEIGHT ASSUMED TO BE 6 INCHES

B – CAPACITY IS RESTRICTED BY THE 2'X2' GRATED INLET ASSUMING WEIR FLOW WITH 3 INCHES OF HEAD

C – CAPACITY IS RESTRICTED BY THE 2'X2' GRATED INLET ASSUMING ORIFICE FLOW WITH 4.5 INCHES OF HEAD

D – CAPACITY IS RESTRICTED BY A 3 SIDED RAISED LIP AROUND PERIMETER OF THE GRATE WITH APPROXIMALTEY 2 INCHES OF HEAD ABOVE THE LIP

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PRETX Model	Inside Dimensions Upstream of Sed Weir - ft			(V) Volume in PRETX - CF	(v) Terminal Settling Velocity - ft/s	(T) Time to Settle - sec	(Q) Treatment Flow Rate = V/θ - cfs	Peak Conveyance Capacity (cfs) *	Recommended Impervious Drainage Area (acre) **
	W	L	H						
PRETX - CURB									
2.5 FT MODEL	2.5	1.675	2.33	9.8	0.31	7.5	0.43	3.5	0.5
4 FT MODEL	4	3	2.33	28.0	0.31	7.5	1.24	5.2	1
4 FT MODEL Double	8	3	2.33	55.9	0.31	7.5	2.48	10.4	2
6 FT MODEL Double	6	4	4.92	118.1	0.31	15.9	2.48	7.8	2
PRETX - DROP									
4 FT MODEL	4	3.17	2.5	31.7	0.31	8	1.31	3.3	0.33
PRETX - DROP LT									
3 FT MODEL	3	2.42	2.08	15.1	0.31	7	0.75	2.8	0.33

H = height of the sediment weir

v calculated using Stokes Law, particle diameter assumed to be medium sand and particle density of 100 lbs/CF

θ is set to 3 times the settling time (T)

* Depends on several factors and assumes free discharge conditions

** Depends on several hydrologic factors including design recurrence intervals (assumed 50-yr and 24-hr rainfall distribution Types I, II or III)