



Policy 25 List A SIZING GUIDELINES

The following BMP's are approvable for use in the City of Knoxville. Each BMP may be approved to operate up to the flow rates listed below under normal conditions. The Engineering Director may require additional BMP's to be used in special circumstances (e.g. underground detention). The SPAP flow rate does not imply that the BMP will be acceptable at every site. Site characteristics will determine if a BMP is acceptable to be used. Please contact the Engineering Department for more detailed information pertaining to each listed BMP. This list is limited to the manufacturers who applied for approval based on the requirements stated in Policy 25 of the Land Development Manual.

AquaShield

AquaSwirl

Model	SPAP Flow (cfs)*	First Flush Flow (cfs)	Bypass Capacity (cfs)
AS-2	1.09	0.25	+
AS-3	1.85	0.48	+
AS-4	3.16	0.94	+
AS-5	4.37	1.4	+
AS-6	6.3	2.2	+
AS-7	8.57	3.3	+
AS-8	11.2	4.6	+
AS-9	14.17	6.1	+
AS-10	17.5	8.0	+
AS-11	21.2	10.1	+
AS-12	25.2	12.6	+
AS-13	29.6	15.4	+
AS-XX	Custom	Custom	Custom

May not be acceptable at every site. May be required to be off line.
 + Defined by diameter & slope of outlet pipe.

AquaFilter

Model (# of rows)	SPAP Flow (cfs)*	First Flush Flow (cfs)	Bypass Capacity (cfs)
1	0.44	0.44	**
2	0.88	0.88	**
3	1.32	1.32	**
4	1.76	1.76	**
5	2.2	2.2	**
6	2.64	2.64	**
7	3.08	3.08	**
8	3.52	3.52	**
9	3.96	3.96	**
10	4.4	4.4	**
11	4.84	4.84	**
12	5.28	5.28	**
13	5.72	5.72	**
14	6.16	6.16	**
15	6.6	6.6	**
16	7.04	7.04	**

May not be acceptable at every site.
 ** Must be used offline

Baysaver

BaySeparator

Model	SPAP Flow (cfs)*	First Flush Flow (cfs)	Bypass flow (cfs)
.5K	0.8	0.30	6.8
1K	1.1	0.41	7.6
3K	3.3	1.2	23
5K	6.8	2.5	48
10K	12.3	4.6	83

May not be acceptable at every site. May be required to be off line.

Contech

CDS

Model	SPAP Flow (cfs)*	First Flush Flow (cfs)	Bypass flow (cfs)
CDS 2015-4-C	0.7	0.63	10
CDS 2015-5-C	0.7	0.63	14
CDS 2020-5-C	1.1	0.99	14
CDS 2025-5-C	1.6	1.4	14
CDS 3020-6-C	2	1.8	20
CDS 3025-6-C	2.4	2.2	20
CDS 3030-6-C	3	2.7	20
CDS 3035-6-C	3.8	3.4	20
CDS 4030-8-C	4.5	4.1	30
CDS 4040-8-C	6	5.4	30
CDS 4045-8-C	7.5	6.8	30
CDS 5640-10-C	9	8.1	50
CDS 5653-10-C	14	12.6	50
CDS 5668-10-C	19	17.1	50
CDS 5678-10-C	25	22.5	50
CDS 3020-6-D	2	1.8	**
CDS 3030-6-D	3	2.7	**
CDS 3035-6-D	3.8	3.4	**
CDS 4030-8-D	4.5	4.1	**
CDS 4040-8-D	6	5.4	**
CDS 4045-8-D	7.5	6.8	**
CDS 5640-8-D	9	8.1	**
CDS 5653-8-D	14	12.6	**
CDS 5668-8-D	19	17.1	**
CDS 5678-8-D	25	22.5	**
CDS 10060-DV	30	27.0	**
CDS 10080-DV	50	45.0	**
CDS 100100-DV	64	57.6	**
CDS 150134-DC	148	133.2	**
CDS 200164-DC	270	243.0	**
CDS 240160-DC	300	270.0	**

May not be acceptable at every site. May be required to be off line.

** Must be used offline

CrystalStream Technologies

CrystalClean Separator

Model	SPAP Flow (cfs)*	First Flush Flow (cfs)	Bypass flow (cfs)**
646	1.4	0.5	8.4
846	1.9	0.7	11.2
856	2.3	0.9	14.0
866	2.8	1.1	18.9
956	2.6	1.0	17.5
1056	2.9	1.1	21.0
1246	2.8	1.1	16.8
1266	4.2	1.6	33.6
1686	7.4	2.8	44.8
1856	5.2	2.0	32.2
2056	5.8	2.2	35.0
2466	8.4	3.2	50.4

May not be acceptable at every site. May be required to be off line.

** with piped internal bypass option

Hydro International

Downstream Defender

Model	SPAP Flow (cfs)*	First Flush Flow (cfs)	Bypass flow (cfs)
4	2.2	1.4	3
6	6.1	4.0	8
8	12.4	8.1	15
10	21.7	14.2	25
12	34.3	22.4	38

May not be acceptable at every site. May be required to be off line.

First Defense

Model	SPAP Flow (cfs)*	First Flush Flow (cfs)	Bypass flow (cfs)
4ft	0.7	0.33	6.0
6ft	2.2	0.91	18

May not be acceptable at every site. May be required to be off line.

First Defense – High Capacity

Model	SPAP Flow (cfs)*	First Flush Flow (cfs)	Bypass flow (cfs)
3ft	1.06	0.46	15
4ft	1.88	0.94	18
6ft	4.23	2.6	32
8ft	7.52	5.3	50

May not be acceptable at every site. May be required to be off line.

UpFlow Filter

Model	SPAP Flow (cfs)*	First Flush Flow (cfs)	Bypass flow (cfs)
1 Ring	0.33	0.33	6
2 Ring	0.66	0.66	12
3 Ring	1	1	18

May not be acceptable at every site. May be required to be off line.

Kristar

Filterra

Model	SPAP Flow (cfs)*	First Flush Flow (cfs)	Bypass flow (cfs)
4x4	0.052	0.060	+
4x6 or 6x4	0.078	0.080	+
4x8 or 8x4	0.104	0.110	+
6x6	0.117	0.120	+
6x8,8x6,4x12, or 12x4	0.156	0.160	+
6x10 or 10x6	0.194	0.200	+
6x12 or 12x6	0.233	0.240	+
7x13 or 13x7	0.295	0.310	+
FTIB-C 4x4-2	0.052	0.060	1.61
FTIB-C 6x4-4	0.078	0.080	3.23
FTIB-C 6x4-3	0.078	0.080	2.42
FTIB-C 6x4-2	0.078	0.080	1.61
FTIB-C 8x4-4	0.104	0.110	3.23
FTIB-C 8x4-3	0.104	0.110	2.42
FTIB-C 8x4-2	0.104	0.110	1.61
FTIB-C 6x6-4	0.117	0.120	3.23
FTIB-C 6x6-3	0.117	0.120	2.42
FTIB-C 6x6-2	0.117	0.120	1.61
FTIB-C 8x6-4	0.156	0.160	3.23
FTIB-C 8x6-3	0.156	0.160	2.42
FTIB-C 8x6-2	0.156	0.160	1.61
FTIB-C 10x6-4	0.194	0.200	3.23
FTIB-C 10x6-3	0.194	0.200	2.42
FTIB-C 10x6-2	0.194	0.200	1.61
FTIB-C 12x6-4	0.233	0.240	3.23
FTIB-C 12x6-3	0.233	0.240	2.42
FTIB-C 12x6-2	0.233	0.240	1.61
FTIB-C 13x7-4	0.295	0.310	3.23
FTIB-C 13x7-3	0.295	0.310	2.42
FTIB-C 13x7-2	0.295	0.310	1.61
FTIB-P 6x4	0.078	0.080	2.25
FTIB-P 8x4	0.104	0.110	2.25
FTIB-P 6x6	0.117	0.120	2.25
FTIB-P 8x6	0.156	0.160	3.80
FTIB-P 10x6	0.194	0.200	3.80
FTIB-P 12x6	0.233	0.240	3.80
FTIB-P 13x7	0.295	0.310	3.80

May not be acceptable at every site. May be required to be off line.

+ Provided by downstream curb inlet or other structure

Flowgard Dual Vortex

Model	SPAP Flow (cfs)*	First Flush Flow (cfs)	Bypass flow (cfs)
DVS-36	0.5	0.27	4
DVS-48	1.25	0.56	9
DVS-60	2.5	0.98	16
DVS-72	4.25	1.5	27
DVS-84	6.5	2.3	40
DVS-96	9.5	3.2	57
DVS-120	16.8	5.5	99
DVS-144	26.4	8.7	154

May not be acceptable at every site. May be required to be off line.

Flowgard Perk Filter

Cartridge Size	SPAP Flow per Cartridge (cfs)*	First Flush Flow per Cartridge (cfs)	Bypass flow (cfs)
12"	0.026	0.026	#
18"	0.04	0.04	#

May not be acceptable at every site. May be required to be off line.

based on vault size and number of cartridges

Suntree

NSBB

Model	SPAP Flow (cfs)*	First Flush Flow (cfs)	Minimum distance from pipe invert to vault ceiling	Bypass flow (cfs)
NSBB 2-4	1.3	0.4	19"	+
NSBB 3-6	3	1	23"	+
NSBB 3-8	4	1.3	23"	+
NSBB 4-8	8	1.8	32"	+
NSBB 5-10	15	2.8	32"	+
NSBB 6-12	24	4.0	32"	+
NSBB 7-14	28	5.5	36"	+
NSBB 8-12	27	5.4	32"	+
NSBB 8-14	32	6.3	40"	+
NSBB 8-16	40	7.1	40"	+
NSBB 9-18	45	8.9	42"	+
NSBB 10-14	44	7.7	40"	+
NSBB 10-16	50	8.8	42"	+
NSBB 10-20	55	11	48"	+
NSBB 12-20	66	13.2	54"	+
NSBB 12-24	72	15.8	54"	+

May not be acceptable at every site. May be required to be off line.

+ Defined by diameter & slope of outlet pipe