

AES DESIGN WORKSHEET FOR FLORIDA

Project: _____ Date: _____

Design Criteria: _____

1. Determine quantity of AES pipe required:

_____ ft of AES pipe per bedroom x _____ bedrooms = _____ ft min.

2. Calculate the minimum System Sand Bed Area (SSBA):

Daily Design Flow = _____ bedrooms x 100 GPD per bedroom = _____ GPD

Soils Texture & Rating = _____

Soil Loading Rate (SLR) from Table A below: _____ Gallons per Day per Square Foot (GPD/sq ft)

Daily Design Flow = _____ GPD ÷ _____ GPD/sq ft SLR = _____ ft² min (SSBA)

Table A: Soil Loading Rate

Texture	Texture Rating	Loading Rate (gpd/sq ft)	Comparability Rating (ft ² required mineral aggregate / ft ² system sand)	
			Subsurface/Fill	Mound
Coarse Sand, Sand, Loamy Coarse Sand	Slightly Limited	1.25	2.08	2.08
Fine Sand	Slightly Limited	1.25	2.08	2.08
Loamy Sand	Slightly Limited	1.25	2.08	3.13
Coarse Sandy Loam, Sandy Loam	Slightly Limited	1.25	2.08	3.13
Very Fine Sand, Loamy Very Fine Sand	Moderately Limited	0.60	1.71	2.40
Fine Sandy Loam	Moderately Limited	0.60	1.71	2.40
Very Fine Sandy Loam	Moderately Limited	0.60	1.71	n/a
Loam	Moderately Limited	0.50	1.43	n/a
Silt Loam	Moderately Limited	0.43	1.23	n/a
Sandy Clay Loam	Moderately Limited	0.43	1.23	n/a
Clay Loam, Silty Clay Loam	Moderately Limited	0.27	1.35	n/a
Sandy Clay, Silty Clay	Moderately Limited	0.27	1.35	n/a
Clay	Severely Limited	n/a	n/a	n/a

3. Calculate the number of serial sections required:

Daily Design Flow = _____ GPD ÷ 500 GPD/section = _____ sections minimum

(Round up to nearest whole number if fractional) = _____ sections minimum

4. Select AES pipe row length and number of rows required:

Pipe required (from Step #1) _____ ft ÷ _____ row length ft

= _____ rows (round up to nearest whole number) ÷ _____ serial sections (from Step #3)

= _____ (must be whole number, increase number of rows or change row length if necessary)

5. Find System Sand Bed Length (SSBL):

Row Length (from Step #4) _____ ft + 1 ft (6 inches beyond each end of row) = _____ ft

6. Find System Sand Bed Width (SSBW):

SSBA (from Step #2) _____ ft² ÷ SSBL (from Step #5) _____ ft = _____ ft min.

7. Verify System Sand Bed Width covers all AES rows:

Pipe Layout Width (PLW) from Table B below _____ ft + 1 ft (6 inches beyond edges of rows)

= _____ ft minimum, if greater than SSBW from Step #6 use this value as the new SSBW

Table B: Total Linear Feet of AES Pipe															
Row Length (ft)	20	40	60	80	100	120	140	160	180	200	220	240	260	280	300
	25	50	75	100	125	150	175	200	225	250	275	300	325	350	375
	30	60	90	120	150	180	210	240	270	300	330	360	390	420	450
	35	70	105	140	175	210	245	280	315	350	385	420	455	490	525
	40	80	120	160	200	240	280	320	360	400	440	480	520	560	600
	45	90	135	180	225	270	315	360	405	450	495	540	585	630	675
	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750
	55	110	165	220	275	330	385	440	495	550	605	660	715	770	825
	60	120	180	240	300	360	420	480	540	600	660	720	780	840	900
	65	130	190	260	325	390	455	520	585	650	715	780	845	910	975
	70	140	210	280	350	420	490	560	630	700	770	840	910	980	1050
	75	150	225	300	375	450	525	600	675	750	825	900	975	1050	1125
	80	160	240	320	400	480	560	640	720	800	880	960	1040	1120	1200
	85	170	255	340	425	510	595	680	765	850	935	1020	1105	1190	1275
	90	180	270	360	450	540	630	720	810	900	990	1080	1170	1260	1350
	95	190	285	380	475	570	665	760	855	950	1045	1140	1235	1330	1425
	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500
# of Rows	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Pipe Layout Width ft at 1.50 ft Row Spacing															
	2.50	4.00	5.50	7.00	8.50	10.00	11.50	13.00	14.50	16.00	17.50	19.00	20.50	22.00	

8. System Sand Extensions (SSE) if required:

System Sand Extensions are only required if the SSBW is wider than the (PLW + 1). If so, an equal amount of sand extension is placed on either sides of the AES pipe, which is centered in the sand bed width.

System Sand Extension = _____ SSBW (Step #7) ft – _____ (PLW + 1 ft) ÷ 2 = _____ ft min.

Final system sand bed width = _____ SSE x 2 = _____ + _____ (PLW + 2 ft) = _____ ft

Notes:

Designed by: _____