

**FIGURE 2.1**  
Design for Average Values w/ 25% Storage Reserve

ADAMS COUNTY HEALTH DEPARTMENT EVAPOTRANSPIRATION BED WATER BALANCE SIZING SPREADSHEET						ADAMS COUNTY HEALTH DEPARTMENT EVAPOTRANSPIRATION BED WATER BALANCE SIZING SPREADSHEET																	
USER INPUT PARAMETERS						TOTAL STORAGE IN BED (No Water in Bed)				INITIAL WATER CONTENT WITHIN BED (Assumes Bed Has Operated for 1 Year)													
TRIAL BED AREA? (Square Feet)	# Bedrooms?	Avg Daily Flow per Bedroom? (gpd)	Avg Daily Flow	Long Term Acceptance Rate? (gal/sqft/day Table 10, O-17)	MONTHLY PRECIP.? (SEE BELOW)	MONTHLY ET? (SEE BELOW)	(Cubic Feet)	VOL/VOL	(Inches)	(Gallons)	(Cubic Feet)	(VOL/VOL)	(Gallons)	(Cubic Feet)									
4400	3	150	450	0.10			9900	0.437	11.72	32361	4326	0.2858	21164	2829									
INITIAL BED WATER? (VOL/VOL)		TOTAL BED POROSITY?								TOTAL AVAILABLE STORAGE IN BED				7.72		65%							
0.2858		0.437								VOL/VOL INCHES GALLONS CUBIC FEET													
										0.1512 4.08 11197 1497													
WATER STORAGE IN BED AT END OF MONTH																							
MONTH	AVERAGE PRECIP- ITATION (Inches)	AVERAGE RUNOFF (Inches)	NET INFILTRA- TION (Inches)	AVERAGE EVAPO- TRANS- PIRATION (Inches)	OUTPUT		MONTH	(Inches)	ACTUAL STORAGE (Inches)	(Gallons)	ACTUAL STORAGE (Gallons)	(Cu.Ft.)	ACTUAL STORAGE (Cu.Ft.)	PERCENT TOTAL STORAGE UTILIZED	YEAR 2 Gallons	Gallons	% Avail. Storage	YEAR 3 Gallons	Gallons	% Avail. Storage			
					MONTH	PERCENT TOTAL BED STORAGE UTILIZED																	
JANUARY	0.46	0.09	0.37	0.58	JANUARY	65%	(INITIAL)	8	8	21164	21164	2829	2829	65%	20971	21164	65%	20971	21164	65%			
FEB	0.77	0.21	0.56	0.55	FEB	66%	JANUARY	8	8	20906	21164	2795	2829	65%	21477	21477	66%	21477	21477	66%			
MARCH	1.25	0.13	1.12	0.85	MARCH	70%	FEB	8	8	21477	21477	2871	2871	66%	22536	22536	70%	22536	22536	70%			
APRIL	1.71	0.04	1.67	1.48	APRIL	72%	MARCH	8	8	22536	22536	3013	3013	70%	23368	23368	72%	23368	23368	72%			
MAY	2.35	0.14	2.21	2.48	MAY	71%	APRIL	9	9	23368	23368	3124	3124	72%	22946	22946	71%	22946	22946	71%			
JUNE	1.52	0.03	1.49	4.93	JUNE	65%	MAY	8	8	22946	22946	3068	3068	71%	13813	21164	65%	13813	21164	65%			
JULY	2.05	0.06	1.99	8.35	JULY	65%	JUNE	5	8	13813	21164	1847	2829	65%	4025	21164	65%	4025	21164	65%			
AUGUST	1.45	0.04	1.41	2.80	AUGUST	65%	JULY	1	8	4025	21164	538	2829	65%	17662	21164	65%	17662	21164	65%			
SEPT	1.49	0.04	1.45	3.89	SEPT	65%	AUGUST	6	8	17662	21164	2361	2829	65%	14780	21164	65%	14780	21164	65%			
OCT	0.86	0.02	0.84	2.21	OCT	65%	SEPT	5	8	14780	21164	1976	2829	65%	17717	21164	65%	17717	21164	65%			
NOV	0.81	0.01	0.80	0.84	NOV	65%	OCT	6	8	17717	21164	2369	2829	65%	21363	21363	66%	21363	21363	66%			
DEC	0.59	0.05	0.54	0.70	DEC	66%	NOV	8	8	21363	21363	2856	2856	66%	21228	21228	66%	21228	21228	66%			
TOTAL	15	0.86	14.45	30	DEC	66%	DEC	8	8	21228	21228	2838	2838	66%									
WATER AND EFFLUENT INTO BED						STATISTICAL ANALYSIS OF PRECIPITATION , RUNOFF AND EVAPOTRANSPIRATION																	
MONTHLY AVERAGE PRECIPITATION INFILTRATION INTO BED			MONTHLY AVERAGE EFFLUENT FLOW INTO BED			AVERAGE PRECIP- TATION	STANDARD DEVIATION PRECIP	99% C.I. UPPER LIMIT PRECIP	AVERAGE RUNOFF	STANDARD DEV. RUNOFF	99% C.I. UPPER LIMIT RUNOFF												
(Inches)	(Gallons)	(Cubic Feet)	(Inches)	(Gallons)	(Cubic Feet)																		
JANUARY	0.37	1015	136	5.09	13950	0.46	0.34	0.58	0.09	0.142	0.14												
FEB	0.56	1536	205	4.59	12600	0.77	0.44	0.93	0.21	0.32	0.33												
MARCH	1.12	3072	411	5.09	13950	1.25	0.68	1.50	0.133	0.301	0.24												
APRIL	1.67	4580	612	4.92	13500	1.71	0.94	2.05	0.041	0.074	0.07												
MAY	2.21	6061	810	5.09	13950	2.35	1.41	2.86	0.143	0.239	0.23												
JUNE	1.49	4087	546	4.92	13500	1.52	0.93	1.86	0.033	0.075	0.06												
JULY	1.99	5458	730	5.09	13950	2.05	1.11	2.45	0.061	0.122	0.11												
AUGUST	1.41	3867	517	5.09	13950	1.45	0.86	1.76	0.038	0.095	0.07												
SEPT	1.45	3977	532	4.92	13500	1.49	0.75	1.76	0.04	0.068	0.06												
OCT	0.84	2304	308	5.09	13950	0.86	0.66	1.10	0.016	0.049	0.03												
NOV	0.80	2194	293	4.92	13500	0.81	0.59	1.02	0.012	0.044	0.03												
DEC	0.54	1481	198	5.09	13950	0.59	0.34	0.71	0.045	0.115	0.09												
						15		18.61			1.46												
WATER AND EFFLUENT OUT OF BED						AVG ET	STD. DEV. ET	99% C.I. ET															
MONTHLY SOIL ABSORPTION RATE			MONTHLY EVAPOTRANSPIRATION RATE																				
JANUARY	4.97	13640	1824	0.58	1583	212	0.577	0.225	0.50														
FEB	4.49	12320	1647	0.55	1503	201	0.548	0.233	0.46														
MARCH	4.97	13640	1824	0.85	2323	311	0.847	0.427	0.69														
APRIL	4.81	13200	1765	1.48	4048	541	1.476	0.801	1.18														
MAY	4.97	13640	1824	2.48	6794	908	2.477	1.06	2.09														
JUNE	4.81	13200	1765	4.93	13519	1807	4.928	0.716	4.67														
JULY	4.97	13640	1824	8.35	22907	3062	8.352	0.285	8.25														
AUGUST	4.97	13640	1824	2.80	7679	1027	2.8	0.753	2.53														
SEPT	4.81	13200	1765	3.89	10661	1425	3.887	0.726	3.62														
OCT	4.97	13640	1824	2.21	6061	810	2.21	0.459	2.04														
NOV	4.81	13200	1765	0.84	2296	307	0.837	0.314	0.72														
DEC	4.97	13640	1824	0.70	1925	257	0.702	0.253	0.61														
						29.641		27.36															