APPENDIX A. SYSTEM OPTIONS WITH MINIMUM VERTICAL SEPARATION DISTANCES AND MINIMUM LOT SIZE REQUIREMENTS [REVOKED]

Figure 1. Options and Vertical Separation Distances for Systems Designed Using a Soil Profile Description

PREVALENT SOIL GROUP IN SEPARATION RANGE	CONVENTIONAL AND SHALLOW EXTENDED SUBSURFACE ABSORPTION FIELD	LOW PRESSURE DOSING FIELD	ET/A FIELD	LAGOON	DRIP IRRIGATION FIELD PRECEDED BY AEROBIC TREATMENT UNIT	SPRAY IRRIGATION FIELD PRECEDED BY AEROBIC TREATMENT UNIT
1	**NOT ALLOWED**	**ALLOWED** If at least 24" of separation between the trench bottom and the limiting layer	**ALLOWED** If installed in Group 5 soil with at least 6" of separation between the trench bottom and soil impervious to boring or water saturated soil. ET/A's are not allowed in Zone 1, *see* Appendix H, Figures 10 and 11. Requires lot size of at least 1 acre.	**ALLOWED** No applicable vertical separation range. Requires a lot size of at least 2 ½ acres. Lagoons are not allowed in Zone 1, *see* Appendix H, Figures 23 and 24. Lagoons are not acceptable in Zones 7-10 when the flow is less than 100 gpd.	**ALLOWED** If at least 18" of separation between the drip line and rock and/or water saturated soil	**ALLOWED** No applicable vertical separation range.
2	**ALLOWED** If at least 24" of separation between the trench bottom and the limiting layer	**ALLOWED** If at least 16" of separation between the trench bottom and the limiting layer			**ALLOWED** If at least 14" of separation between the drip line and rock and/or water saturated soil	
2a	**ALLOWED** If at least 21" of separation between the trench bottom and the limiting layer	**ALLOWED** If at least 14" of separation between the trench bottom and the limiting layer			**ALLOWED** If at least 12" of separation between the drip line and rock and/or water saturated soil	
3	**ALLOWED** If at least 18" of separation between the trench bottom and the limiting layer	**ALLOWED** If at least 12" of separation between the trench bottom and the limiting layer			**ALLOWED** If at least 10" of separation between the drip line and rock and/or water saturated soil	
3a	**ALLOWED** If at least 14" of separation between the trench bottom and the limiting layer	**ALLOWED** If at least 10" of separation between the trench bottom and the limiting layer			**ALLOWED** If at least 8" of separation between the drip line and rock and/ or water saturated soil	
4	**ALLOWED** If at least 10" of separation between the trench bottom and the limiting layer	**ALLOWED** If at least 6" of separation between the trench bottom and the limiting layer			**ALLOWED** If at least 6" of separation between the drip line and rock and/ or water saturated soil	
5	**NOT ALLOWED**	**NOT ALLOWED**			**ALLOWED** If at least 6" of separation between the drip line and rock and/ or water saturated soil	

Figure 2. Options and Vertical Separation Distances for Systems Designed Using a Percolation Test

<table>
<tr><th>PERCOLATION RATE</th><th>CONVENTIONAL SUBSURFACE ABSORPTION FIELD</th><th>SHALLOW EXTENDED SUBSURFACE ABSORPTION FIELD
-
LOW PRESSURE DOSING FIELD
-
ET/A FIELD</th><th>LAGOON</th><th>DRIP IRRIGATION FIELD PRECEDED BY AEROBIC TREATMENT UNIT</th><th>SPRAY IRRIGATION FIELD PRECEDED BY AEROBIC TREATMENT UNIT</th></tr>
<tr><td>0-75 mpi</td><td>ALLOWED
If at least 6" of separation between the bottom of the trench and the bottom of the percolation test hole</td><td rowspan="2">NOT ALLOWED
Has to be designed with a soil profile description</td><td rowspan="2">ALLOWED</td><td rowspan="2">NOT ALLOWED
Has to be designed with soil profile description</td><td rowspan="2">ALLOWED
If sized using Group 5 sizing criteria</td></tr>
<tr><td>>75 mpi</td><td>NOT ALLOWED</td></tr>
</table>

Figure 3. Minimum Lot Size Requirements

TYPE OF TREATMENT/DISPERSAL FIELD	MINIMUM LOT SIZE†	
	With private well	*With public water*
Conventional or Shallow Extended Subsurface Absorption Field in Dispersal Site with: (a) Percolation rate of 30 minutes or less; or (b) Group 2, 2a or 3 soil classification	3/4 acre	1/2 acre
Conventional or Shallow Extended Subsurface Absorption Field in Dispersal Site with: (a) Percolation rate of more than 30 minutes; or (b) Group 3a or 4 soil classification	1 acre	1 acre
Low Pressure Dosing Field in Dispersal Site with Group 1 or 2 soil classification	3/4 acre	1/2 acre
Evapotranspiration/Absorption (ET/A) Field	1 acre	1 acre
Drip Irrigation Field	3/4 acre	1/2 acre
Spray Irrigation Field	3/4 acre	1/2 acre
Lagoon	2 1/2 acres	2 1/2 acres

† The minimum lot size excludes road easements.

APPENDIX A. SYSTEM OPTIONS WITH MINIMUM VERTICAL SEPARATION DISTANCES AND MINIMUM LOT SIZE REQUIREMENTS [NEW]

Figure 1. Options and Vertical Separation Distances for Systems Designed Using a Soil Profile Description

PREVELANT SOIL GROUP IN SEPARATION RANGE	CONVENTIONAL AND SHALLOW EXTENDED SUBSURFACE ABSORPTION FIELD	ET/A FIELD	LAGOON	DRIP IRRIGATION FIELD PRECEDED BY AEROBIC TREATMENT UNIT	SPRAY IRRIGATION FIELD PRECEDED BY AEROBIC TREATMENT UNIT
1	**NOT ALLOWED**	**ALLOWED** If installed in Group 5 soil with at least 6" of separation between the trench bottom and soil impervious to boring or water saturated soil.	**ALLOWED** No applicable vertical separation range.	**ALLOWED** If at least 18" of separation between the drip line and rock and/or water saturated soil	**ALLOWED** No applicable vertical separation range
2	**ALLOWED** If at least 24" of separation between the trench bottom and the limiting layer		Requires a lot size of at least 2 ½ acres.	**ALLOWED** If at least 14" of separation between the drip line and rock and/or water saturated soil	
2a	**ALLOWED** If at least 21" of separation between the trench bottom and the limiting layer	ET/A's are not allowed in Zone 1, *see* Appendix H, Figures 9 and 10.	Lagoons are not allowed in Zone 1, *see* Appendix H, Figures 18 and 19.	**ALLOWED** If at least 12" of separation between the drip line and rock and/or water saturated soil	
3	**ALLOWED** If at least 18" of separation between the trench bottom and the limiting layer	Requires lot size of at least 1 acre.	Lagoons are not acceptable in Zones 7-10 when the flow is less than 100 gpd.	**ALLOWED** If at least 10" of separation between the drip line and rock and/or water saturated soil	
3a	**ALLOWED** If at least 14" of separation between the trench bottom and the limiting layer			**ALLOWED** If at least 8" of separation between the drip line and rock and/ or water saturated soil	
4	**ALLOWED** If at least 10" of separation between the trench bottom and the limiting layer			**ALLOWED** If at least 6" of separation between the drip line and rock and/ or water saturated soil	
5	**NOT ALLOWED**			**ALLOWED** If at least 6" of separation between the drip line and rock and/ or water saturated soil	

Figure 2. Options and Vertical Separation Distances for Systems Designed Using a Percolation Test

PERCOLATION RATE	CONVENTIONAL SUBSURFACE ABSORPTION FIELD	SHALLOW EXTENDED SUBSURFACE ABSORPTION & ET/A FIELD	LAGOON	DRIP IRRIGATION FIELD PRECEDED BY AEROBIC TREATMENT UNIT	SPRAY IRRIGATION FIELD PRECEDED BY AEROBIC TREATMENT UNIT
0-75 mpi	**ALLOWED** If at least 6" of separation between the bottom of the trench and the bottom of the percolation test hole	**NOT ALLOWED** Must be designed with a soil profile description	**ALLOWED**	**NOT ALLOWED** Must be designed with soil profile description	**ALLOWED** If sized using Group 5 sizing criteria
>75 mpi	**NOT ALLOWED**				

Figure 3. Minimum Lot Size Requirements

TYPE OF TREATMENT/DISPERSAL FIELD	MINIMUM LOT SIZE†	
	With private well	*With public water*
Conventional or Shallow Extended Subsurface Absorption Field in Dispersal Site with: (a) Percolation rate of 30 minutes or less; or (b) Group 2, 2a, or 3 soil classification	3/4 acre	1/2 acre
Conventional or Shallow Extended Subsurface Absorption Field in Dispersal Site with: (a) Percolation rate of more than 30 minutes; or (b) Group 3a or 4 soil classification	1 acre	1 acre
Evapotranspiration/Absorption (ET/A) Field	1 acre	1 acre
Drip Irrigation Field	3/4 acre	1/2 acre
Spray Irrigation Field	3/4 acre	1/2 acre
Lagoon	2 1/2 acres	2 1/2 acres

† The minimum lot size excludes road easements and surface impoundments.

APPENDIX C. PIPE SPECIFICATIONS FOR ON-SITE SEWAGE TREATMENT SYSTEMS [REVOKED]

USE	PIPE SIZE	ACCEPTABLE MATERIALS
Solid pipe when used for single family residences or small public systems where the flow is 1,500 gpd or less	3" to 4" diameter	*Acrylonitrile Butadiene Styrene (ABS)*: ASTM D2661 ASTM D2751 ASTM F628 *Polyvinyl Chloride (PVC)*: ASTM D2665 ASTM D2949 ASTM D3033 ASTM D3034 ASTM F789
Solid pipe when the average flow is greater than 1,500 gpd	Minimum 6" diameter	
Discharge line from lift stations or other pressurized effluent waste water lines†	Minimum 1" diameter	*Polyvinyl Chloride (PVC)*: ASTM D2846 ASTM F441 ASTM F442 Schedule 40
Low pressure dosing manifold pipe	3" diameter	
Low pressure dosing perforated pipe	1 ½" diameter	
Perforated pipe when used in a conventional subsurface absorption field or an ET/A field	Minimum 3" diameter	*Polyethylene (PE)*: ASTM F810 ASTM D3350 *Polyvinyl Chloride (PVC)*: ASTM D2729 ASTM D3034 ASTM D3350

† All reclaimed, pressurized water piping shall be colored purple (Pantone 522) by the manufacturer.

APPENDIX C. PIPE SPECIFICATIONS FOR ON-SITE SEWAGE TREATMENT SYSTEMS [NEW]

<table>
<tr><th>USE</th><th>PIPE SIZE</th><th>ACCEPTABLE MATERIALS</th></tr>
<tr><td>Solid pipe when used for single family residences or small public systems where the flow is 1,500 gpd or less</td><td>3" to 4" diameter</td><td rowspan="2">Acrylonitrile Butadiene Styrene (ABS):
ASTM D2661
ASTM D2751
ASTM F628
Polyvinyl Chloride (PVC):
ASTM D2665
ASTM D2949
ASTM D3033
ASTM D3034
ASTM F789</td></tr>
<tr><td>Solid pipe when the average flow is greater than 1,500 gpd</td><td>Minimum 6" diameter</td></tr>
<tr><td>Discharge line from lift stations or other pressurized effluent wastewater lines†</td><td>Minimum 1" diameter</td><td>Polyvinyl Chloride (PVC):
ASTM D2846
ASTM F441
ASTM F442
Schedule 40</td></tr>
<tr><td>Perforated pipe when used in a conventional subsurface absorption or an ET/A field</td><td>Minimum 3" diameter</td><td>Polyethylene (PE):
ASTM F810
ASTM D3350
Polyvinyl Chloride (PVC):
ASTM D2729
ASTM D3034
ASTM D3350</td></tr>
</table>

† All reclaimed, pressurized water piping shall be colored purple (Pantone 522) by the manufacturer.

APPENDIX E. HORIZONTAL SEPARATION DISTANCE REQUIREMENTS FOR ON-SITE SEWAGE TREATMENT SYSTEMS [REVOKED]

Required Horizontal Separation Distances in Feet

	Aerobic Treatment Unit, Flow Equalization Tank, Low Pressure Dosing Tank, Lift Station, Septic Tank & Trash Tank	Perforated Pipe, Chamber, or Drip Irrigation Line	Solid Pipe	Lagoons	Spray Irrigation Heads	Spray Irrigation Effluent
Private Well or Surface Water Supply	50 [1]	50 [1]	50 3	50 2, 4	50 [1]	25
Public Water Supply Well	300	300	50	300 [4]	300	300
Building	5	5	N/A	50 5, 6	N/A	N/A
Other Structure [7]	N/A [8]	5	N/A [9]	N/A	N/A	N/A
Waterline	5	15	10 [10]	15 4	15	N/A
Property Line	5	5	5	10 5	10	10
Impoundment or Stream [11]	15	15	N/A	15 5	25	25
French Drain/ Curtain Drain	15	15	N/A	15 5	15	15

[1]Distances shall be one hundred feet (100') if the soil percolates one inch (1") in less than five (5) minutes or is classified as a Group 1 soil in the separation range.
[2]Distances shall be one hundred feet (100') if the ground slopes toward the water supply.
[3] Distances may be reduced up to ten feet (10') if, at a minimum, Schedule 40 pipe is used.
[4]The distance shall be measured horizontally from the center line of the nearest dike.
[5]The distance shall be measured from the outside base of the nearest dike.
[6]This only applies to residences that are not located on the owner's property.
[7]"Other structures" include but are not limited to driveways, parking lots and paved areas.
[8]If septic tanks are located under paved areas, access to all manhole/cleanout openings shall be provided.
[9] If solid pipe is installed under a roadway or a driveway, the pipe under the roadway/driveway and the ten feet (10') of pipe extending out from under the roadway/driveway on both sides shall be, at a minimum Schedule 40 pipe or sleeved with Schedule 40 pipe.
[10] Ten feet (10') horizontal or two feet (2') vertical separation shall be maintained between any water line and solid pipe. When proper horizontal and vertical separation cannot be obtained then the solid pipe shall be constructed of, at a minimum, Schedule 40 pipe and shall be installed so the joints of both the water line and the solid pipe are as far apart as possible

APPENDIX E. HORIZONTAL SEPARATION DISTANCE REQUIREMENTS FOR ON-SITE SEWAGE TREATMENT SYSTEMS [NEW]

Required Horizontal Separation Distances in Feet

	AEROBIC TREATMENT UNIT, FLOW EQUALIZATION TANK, LIFT STATION, SEPTIC & TRASH TANK	PERFORATED PIPE, CHAMBER, OR DRIP IRRIGATION LINE	SOLID PIPE	LAGOONS	SPRAY IRRIGATIONS HEADS	SPRAY IRRIGATION EFFLUENT
Private Well or Surface Water Supply	50 [1]	50 [1]	50 [3]	50 [2,4]	50 [1]	25
Public Water Supply Well	300	300	50	300 [4]	300	300
Building	5	5	N/A	50 [5,6]	N/A	N/A
Other Structure [7]	N/A [8]	5	N/A [9]	N/A	N/A	N/A
Waterline	5	15	10 [10]	15 [4]	15	N/A
Property Line	5	5	5	10 [5]	10	10
Impoundment or Stream [11]	15	15	N/A	15 [5]	25	25
French/Curtain Drain	15	15	N/A	15 [5]	15	15

[1]Distances shall be one hundred feet (100') if the soil percolates one inch (1") in less than five (5) minutes or is classified as a Group 1 soil in the separation range.
[2]Distances shall be one hundred feet (100') if the ground slopes toward the water supply.
[3] Distances may be reduced up to ten feet (10') if, at a minimum, Schedule 40 pipe is used.
[4]The distance shall be measured horizontally from the center line of the nearest dike.
[5]The distance shall be measured from the outside base of the nearest dike.
[6]This only applies to residences that are not located on the owner's property.
[7]"Other structures" include but are not limited to driveways, parking lots, and paved areas.
[8]If septic tanks are located under paved areas, access to all manhole/cleanout openings shall be provided.
[9] If solid pipe is installed under a roadway or a driveway, the pipe under the roadway/driveway and the ten feet (10') of pipe extending out from under the roadway/driveway on both sides shall be, at a minimum Schedule 40 pipe or sleeved with Schedule 40 pipe.
[10] Ten feet (10') horizontal or two feet (2') vertical separation shall be maintained between any water line and solid pipe. When proper horizontal and vertical separation cannot be obtained then the solid pipe shall be constructed of, at a minimum, Schedule 40 pipe and shall be installed so the joints of both the water line and the solid pipe are as far apart as possible.

APPENDIX H. SIZE CHARTS FOR ON-SITE SEWAGE TREATMENT SYSTEMS [REVOKED]

Figure 1. Individual Conventional Subsurface Absorption Fields Designed Using a Percolation Test

Minimum Trench Length in Feet

Soil Percolation Rate min/inch	NUMBER OF BEDROOMS IN RESIDENCE							
	Two or Fewer		Three		Four		Each Add. Bedroom	
	Gravel	Manufactured Media	Gravel	Manufactured Media	Gravel	Manufactured Media	Gravel	Manufactured Media
0-15	200	160	270	215	340	270	70	55
16-30	310	250	410	330	510	410	100	80
31-45	420	340	560	450	700	560	140	110
46-60	590	470	790	630	990	790	200	160
61-75	770	620	1030	830	1290	1040	260	210
>75	Prohibited							

† These figures are based on an average flow of 6,000 gallons per month for a two-bedroom residence with an additional 2,000 gallons per month added for each additional bedroom. The size of the system should be increased if the actual or anticipated water usage exceeds this average.

Figure 2. Individual Conventional Subsurface Absorption Fields Designed Using a Soil Profile Description

Minimum Trench Length in Feet

Soil Group	NUMBER OF BEDROOMS IN RESIDENCE							
	Two or Fewer		Three		Four		Each Add. Bedroom	
	Gravel	Manufactured Media	Gravel	Manufactured Media	Gravel	Manufactured Media	Gravel	Manufactured Media
1	Prohibited							
2	160	120	210	160	260	195	50	40
2a	250	190	330	250	410	310	80	60
3	340	255	450	340	550	415	100	75
3a	500	375	665	500	830	625	165	120
4	660	500	880	660	1,100	825	220	160
5	Prohibited							

† These figures are based on an average flow of 6,000 gallons per month for a two-bedroom residence with an additional 2,000 gallons per month added for each additional bedroom. The size of the system should be increased if the actual or anticipated water usage exceeds this average.

Figure 3. Minimum Length Requirements Using a Soil Profile Description (Net Evaporation Zones 6-8) [See Figure 22 in this Appendix]

Minimum Trench Length in Feet

Soil Group	NUMBER OF BEDROOMS IN RESIDENCE							
	Two or Fewer		Three		Four		Each Add. Bedroom	
	Gravel	Manufactured Media	Gravel	Manufactured Media	Gravel	Manufactured Media	Gravel	Manufactured Media
1	Prohibited							
2	135	120	175	160	220	195	50	40
2a	215	190	280	250	350	310	80	60
3	290	255	380	340	465	415	100	75
3a	425	375	565	500	705	625	165	120
4	560	500	750	660	935	825	220	160
5	Prohibited							

† These figures are based on an average flow of 6,000 gallons per month for a two-bedroom residence with an additional 2,000 gallons per month added for each additional bedroom. The size of the system should be increased if the actual or anticipated water usage exceeds this average. Abit S. 2019: Modeling Soil Treatment Area Requirements for Conventional Septic Systems across a Climate Gradient, Oklahoma State University.

Figure 4. Minimum Length Requirements Using a Soil Profile Description (Net Evaporation Zones 9-10) [See Figure 22 in this Appendix]

Minimum Trench Length in Feet

Soil Group	NUMBER OF BEDROOMS IN RESIDENCE							
	Two or Fewer		Three		Four		Each Add. Bedroom	
	Gravel	Manufactured Media	Gravel	Manufactured Media	Gravel	Manufactured Media	Gravel	Manufactured Media
1	Prohibited							
2	115	115	150	150	185	185	50	40
2a	175	175	230	230	290	290	80	60
3	240	240	315	315	385	385	100	75
3a	350	350	465	465	580	580	165	120
4	460	460	620	620	770	770	220	160
5	Prohibited							

† These figures are based on an average flow of 6,000 gallons per month for a two-bedroom residence with an additional 2,000 gallons per month added for each additional bedroom. The size of the system should be increased if the actual or anticipated water usage exceeds this average. Abit S. 2019: Modeling Soil Treatment Area Requirements for Conventional Septic Systems across a Climate Gradient, Oklahoma State University.

Figure 5. Small Public Conventional Subsurface Absorption Fields Designed Using a Percolation Test

Minimum Linear Feet Per Gallon per Day

PERCOLATION RATE FOR DISPERSAL SITE	LINEAR FEET PER GALLON PER DAY
0-15 minutes per inch	1.2
16-30 minutes per inch	1.5
31-45 minutes per inch	2
46-60 minutes per inch	2.5
61-75 minutes per inch	3.85
>75 minutes per inch	Prohibited

Figure 6. Small Public Conventional Subsurface Absorption Fields Designed Using a Soil Profile Description

Minimum Linear Feet per Gallon per Day

SOIL GROUP	LINEAR FEET PER GALLON PER DAY
1	Prohibited
2	0.8
2a	1.3
3	1.7
3a	2.5
4	3.3
5	Prohibited

Figure 7. Individual Shallow Extended Subsurface Absorption Fields Designed Using a Soil Profile Description

Minimum Trench Length in Feet

SOIL GROUP	NUMBER OF BEDROOMS IN RESIDENCE†			
	Two or Fewer	**Three**	**Four**	**Each Additional Bedroom**
1	Prohibited			
2	260	340	420	80
2a	400	530	660	130
3	540	720	900	180
3a	800	1,060	1,320	260
4	1,060	1,410	1,760	350
5	Prohibited			

† These figures are based on an average flow of 6,000 gallons per month for a two-bedroom residence with an additional 2,000 gallons per month added for each additional bedroom. The size of the system should be increased if the actual or anticipated water usage exceeds this average.

Figure 8. Small Public Shallow Extended Subsurface Absorption Fields Designed Using a Soil Profile Description

Minimum Linear Feet per Gallon per Day

SOIL GROUP	LINEAR FEET PER GALLON PER DAY
1	Prohibited
2	1.3
2a	2.1
3	2.7
3a	4.0
4	5.3
5	Prohibited

Figure 9. Individual Low Pressure Dosing Fields Designed Using a Soil Profile Description

Total Linear Trench Length in Feet

SOIL GROUP††	NUMBER OF BEDROOMS IN RESIDENCE†			
	Two or Fewer	**Three**	**Four**	**Five**
1	120	160	200	240
2	160	200	240	280
2a, 3, 3a, 4, & 5	Prohibited			

† These figures are based on an average flow of 6,000 gallons per month for a two-bedroom residence with an additional 2,000 gallons per month added for each additional bedroom. The size of the system should be increased if the actual or anticipated water usage exceeds this average.

†† Low pressure dosing fields may be allowed in soil groups 2a, 3, 3a and 4 when designed and approved as an alternative on-site sewage treatment system.

Figure 10. Small Public Low Pressure Dosing Fields Designed Using a Soil Profile Description

Total Linear Trench Length in Feet

SOIL GROUP†	AVERAGE DAILY FLOW IN GALLONS			
	200	**275**	**350**	**400††**
1	120	160	200	240
2	160	200	240	280
2a, 3, 3a, 4 & 5	Prohibited			

† Low pressure dosing fields may be allowed in soil groups 2a, 3, 3a and 4 when designed and approved as an alternative on-site sewage treatment system.

†† Low pressure dosing fields may be allowed for average daily flows over 400 gpd, but they will have to be designed and approved as an alternative on-site sewage treatment system.

Figure 11. Individual ET/A Fields Designed Using a Soil Profile Description - Soil Group 5 Only

Minimum Trench Length in Feet

ZONE [See Figure 25 in this Appendix (relating to net evaporation zones)]	**NUMBER OF BEDROOMS IN RESIDENCE †**			
	Two or Fewer	**Three**	**Four**	**Each Additional Bedroom**
1	2,059	2,745	3,432	686
2	1,872	2,496	3,120	624
3	1,647	2,196	2,745	549
4	1,471	1,961	2,451	490
5	1,373	1,830	2,288	457
6	1,144	1,525	1,907	381
7	958	1,277	1,596	319
8	792	1,056	1,320	264
9	675	900	1,125	225
10	580	773	967	193

† These figures are based on an average flow of 6,000 gallons per month for a two-bedroom residence with an additional 2,000 gallons per month added for each additional bedroom. The size of the system should be increased if the actual or anticipated water usage exceeds this average.

Figure 12. Small Public ET/A Fields Designed Using a Soil Profile Description - Soil Group 5 Only

Minimum Trench Length in Feet

AVERAGE DAILY FLOW In Gallons	ZONE [See Figure 25 in this Appendix (relating to net evaporation zones)]									
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
25	261	238	209	187	174	145	122	100	86	70
50	522	475	418	373	348	290	243	200	171	141
75	783	712	626	560	522	435	364	300	257	212
100	1,044	949	835	746	696	580	485	401	342	282
200	2,088	1,898	1,670	1,491	1,392	1,160	971	803	684	564
300	3,131	2,847	2,505	2,237	2,088	1,740	1,456	1,204	1,027	846
400	4,175	3,796	3,340	2,982	2,784	2,320	1,942	1,606	1,369	1,128
500	5,219	4,745	4,175	3,728	3,479	2,899	2,427	2,007	1,711	1,411
600	6,263	5,694	5,010	4,473	4,175	3,479	2,913	2,409	2,053	1,693
700	7,307	6,642	5,845	5,219	4,871	4,059	3,398	2,810	2,396	1,975
800	8,351	7,591	6,680	5,965	5,567	4,639	3,884	3,112	2,738	2,257
900	9,394	8,540	7,515	6,710	6,263	5,219	4,369	3,613	3,080	2,539
1,000	10,438	9,489	8,351	7,456	6,959	5,799	4,855	4,015	3,422	2,821
1,100	11,482	10,438	9,186	8,201	7,655	6,379	5,340	4,416	3,765	3,105
1,200	12,526	11,387	10,021	8,947	8,351	6,959	5,826	4,818	4,107	3,385
1,300	13,570	12,336	10,856	9,693	9,046	7,539	6,311	5,219	4,449	3,667
1,400	14,613	13,285	11,691	10,438	9,742	8,119	6,797	5,621	4,791	3,950
1,500	15,657	14,234	12,526	11,184	10,438	8,698	7,282	6,022	5,134	4,232
1,600	16,701	15,183	13,361	11,929	11,134	9,278	7,768	6,423	5,476	4,514
1,700	17,745	16,132	14,196	12,675	11,830	9,858	8,253	6,825	5,818	4,796
1,800	18,789	17,081	15,031	13,420	12,526	10,438	8,739	7,226	6,160	5,078
1,900	19,832	18,030	15,866	14,166	13,222	11,018	9,224	7,628	6,502	5,360
2,000	20,876	18,978	16,701	14,912	13,918	11,598	9,710	8,029	6,845	5,642
2,500	26,095	23,718	20,876	18,640	17,397	14,498	12,138	10,037	8,556	7,053
3,000	31,314	28,458	25,052	22,367	20,876	17,397	14,565	12,044	10,267	8,463
3,500	36,533	33,212	29,227	26,096	24,356	20,296	16,993	14,052	11,978	9,874
4,000	41,753	37,957	33,402	29,823	27,835	23,196	19,420	16,059	13,689	11,284
4,500	46,972	42,702	37,578	33,551	31,314	26,096	21,848	18,066	15,401	12,695
5,000	52,191	47,446	41,573	37,279	34,794	28,995	24,275	20,073	17,112	14,106

Figure 13. Drip Irrigation Fields Designed Using a Soil Profile Description

Minimum Trench Length in Feet

SOIL GROUP	NUMBER OF BEDROOMS IN RESIDENCE†				Small Public Systems
	Two or Fewer	Three	Four	Each Additional Bedroom	Feet per Gallon per Day
1	125	165	205	40	0.70
2	160	210	260	50	0.80
2a	250	330	410	80	1.3
3	340	450	550	100	1.7
3a	500	665	830	165	2.5
4	660	880	1,100	220	3.3
5	1,000	1,330	1,660	330	5.0

† These figures are based on an average flow of 6,000 gallons per month for a two-bedroom residence with an additional 2,000 gallons per month added for each additional bedroom. The size of the system should be increased if the actual or anticipated water usage exceeds this average.

Figure 14. Individual Spray Irrigation Fields Designed Using a Soil Profile Description – Net Evaporation Zone 1 and 2 [See Figure 22 in this Appendix (relating to net evaporation zones)]

Minimum Spray Irrigation Area in Square Feet

SOIL GROUP	NUMBER OF BEDROOMS IN RESIDENCE†			
	Two or Fewer	Three	Four	Each Additional Bedroom
1	2,920	3,885	4,862	963
2	3,212	4,273	5,348	1,084
2a	3,504	4,662	5,835	1,156
3	3,796	5,050	6,321	1,252
3a	4,088	5,439	6,807	1,348
4	4,380	5,827	7,293	1,445
5	5,840	7,770	9,725	1,927

† These figures are based on an average flow of 6,000 gallons per month for a two-bedroom residence with an additional 2,000 gallons per month added for each additional bedroom. The size of the system should be increased if the actual or anticipated water usage exceeds this average.

Figure 15. Individual Spray Irrigation Fields Designed Using a Soil Profile Description–Net Evaporation Zone 3 [See Figure 22 in this Appendix (relating to net evaporation zones)]

Minimum Spray Irrigation Area in Square Feet

SOIL GROUP	NUMBER OF BEDROOMS IN RESIDENCE†			
	Two or Fewer	Three	Four	Each Additional Bedroom
1	2,335	3,107	3,890	770
2	2,568	3,418	4,279	847
2a	2,802	3,729	4,668	924
3	3,035	4,039	5,057	1,001
3a	3,269	4,350	5,446	1,078
4	3,502	4,661	5,835	1,156
5	4,670	6,215	7,780	1,541

† These figures are based on an average flow of 6,000 gallons per month for a two-bedroom residence with an additional 2,000 gallons per month added for each additional bedroom. The size of the system should be increased if the actual or anticipated water usage exceeds this average.

Figure 16. Individual Spray Irrigation Fields Designed Using a Soil Profile Description–Net Evaporation Zone 4 and 5 [See Figure 22 in this Appendix (relating to net evaporation zones)]

Minimum Spray Irrigation Area in Square Feet

SOIL GROUP	NUMBER OF BEDROOMS IN RESIDENCE†			
	Two or Fewer	Three	Four	Each Additional Bedroom
1	1,821	2,428	3,034	607
2	2,003	2,670	3,337	667
2a	2,185	2,913	3,641	728
3	2,367	3,156	3,944	789
3a	2,549	3,399	4,248	850
4	2,731	3,641	4,551	910
5	3,641	4,855	6,068	1,214

† These figures are based on an average flow of 6,000 gallons per month for a two-bedroom residence with an additional 2,000 gallons per month added for each additional bedroom. The size of the system should be increased if the actual or anticipated water usage exceeds this average.

Figure 17. Individual Spray Irrigation Fields Designed Using a Soil Profile Description– Net Evaporation Zone 6 and 7 [See Figure 22 in this Appendix (relating to net evaporation zones)]

Minimum Spray Irrigation Area in Square Feet

SOIL GROUP	NUMBER OF BEDROOMS IN RESIDENCE†			
	Two or Fewer	**Three**	**Four**	**Each Additional Bedroom**
1	1,324	1,766	2,207	447
2	1,456	1,942	2,427	486
2a	1,589	2,119	2,648	530
3	1,721	2,295	2,868	574
3a	1,854	2,475	3,089	618
4	1,986	2,648	3,310	662
5	2,648	3,531	4,413	883

† These figures are based on an average flow of 6,000 gallons per month for a two-bedroom residence with an additional 2,000 gallons per month added for each additional bedroom. The size of the system should be increased if the actual or anticipated water usage exceeds this average.

Figure 18. Individual Spray Irrigation Fields Designed Using a Soil Profile Description– Net Evaporation Zone 8, 9, and 10 [See Figure 22 in this Appendix (relating to net evaporation zones)]

Minimum Spray Irrigation Area in Square Feet

SOIL GROUP	NUMBER OF BEDROOMS IN RESIDENCE†			
	Two or Fewer	**Three**	**Four**	**Each Additional Bedroom**
1	940	1,253	1,566	313
2	1,033	1,378	1,723	345
2a	1,127	1,504	1,879	377
3	1,221	1,629	2,036	408
3a	1,315	1,754	2,192	430
4	1,409	1,880	2,349	471
5	1,879	2,506	3,132	627

† These figures are based on an average flow of 6,000 gallons per month for a two-bedroom residence with an additional 2,000 gallons per month added for each additional bedroom. The size of the system should be increased if the actual or anticipated water usage exceeds this average.

Figure 19. Small Public Spray Irrigation Fields Designed Using a Soil Profile Description– [See Figure 22 in this Appendix (relating to net evaporation zones)]

Minimum Spray Irrigation Area in Square Feet per Gallon per day

SOIL GROUP	NET EVAPORATION ZONES				
	1 and 2	**3**	**4 and 5**	**6 and 7**	**8,9, and 10**
1	15	12	9	7	5
2	16	13	10	7	5
2a	18	14	11	8	6
3	19	15	12	9	6
3a	21	16	13	9	7
4	22	18	14	10	7
5	29	23	18	13	9

Figure 20. Individual Lagoons

Length in Feet of Each Side of the Bottom of a Square Individual Lagoon

ZONE [See Figure 25 in this Appendix (relating to net evaporation zones)]	NUMBER OF BEDROOMS IN RESIDENCE†			
	Two or Fewer	**Three**	**Four**	**Five**
1	Contact your local DEQ office for assistance with sizing lagoons in Zones 1 and 2			
2				
3	40	50	60	65
4	35	45	55	60
5	30	40	50	55
6	25	35	45	50
7	20	30	35	45
8	20	25	30	35
9	15	20	25	30
10	10	15	20	25

Diameter in Feet of the Bottom of a Round Individual Lagoon

ZONE [See Figure 25 in this Appendix (relating to net evaporation zones)]	NUMBER OF BEDROOMS IN RESIDENCE†			
	Two or Fewer	**Three**	**Four**	**Five**
1	Contact your local DEQ office for assistance with sizing lagoons in Zones 1 and 2			
2				
3	50	60	70	80
4	45	55	65	75
5	40	50	60	70
6	35	45	50	60
7	30	40	45	55
8	25	30	40	45
9	20	30	35	40
10	15	25	30	35

† These figures are based on an average flow of 6,000 gallons per month for a two-bedroom residence with an additional 2,000 gallons per month added for each additional bedroom. The size of the system should be increased if the actual or anticipated water usage exceeds this average.

Figure 21. Small Public Lagoons

Length in Feet of Each Side of the Bottom of a Square Small Public Lagoon

AVERAGE DAILY FLOW In Gallons	ZONE [See Figure 25 of this Appendix (relating to net evaporation zones)]									
	1	2	3	4	5	6	7	8	9	10
100	Contact your local DEQ office for assistance with sizing lagoons in Zones 1 and 2		18	16	14	10	Prohibited			
200			38	35	32	27	22	17	14	11
300			54	49	46	40	34	28	24	20
400			67	61	58	51	44	37	32	27
500			78	72	69	60	52	45	39	34
600			88	82	78	69	60	52	46	40
700			98	91	87	77	68	59	52	46
800			107	99	95	84	74	65	58	51
900			115	107	102	91	81	71	63	56
1,000			123	114	110	97	87	76	68	61
1,100			130	122	116	104	92	81	73	65
1,200			138	128	123	110	98	86	77	69
1,300			144	135	129	115	103	91	82	73
1,400			151	141	135	121	108	95	86	77
1,500			157	147	141	126	113	100	90	81
1,600			163	153	147	131	117	104	94	85
1,700			169	158	152	136	122	108	98	88
1,800			175	164	157	141	126	112	101	92
1,900			181	169	162	146	131	116	105	95
2,000			186	174	167	150	135	120	108	98
2,500			212	198	190	171	154	137	125	114
3,000			235	220	212	191	172	154	140	127
3,500			256	240	231	209	188	168	153	140
4,000			276	259	249	225	203	182	166	151

4,500			295	276	266	240	218	195	178	163
5,000			312	293	282	255	231	207	189	173

Diameter in Feet of the Bottom of a Round Small Public Lagoon

AVERAGE DAILY FLOW In Gallons	**ZONE** [See Figure 25 of this Appendix (relating to net evaporation zones)]									
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
100			25	22	20	15	Prohibited			
200			47	43	40	34	29	23	20	16
300			65	59	56	49	42	35	31	26
400			79	73	70	61	53	45	40	35
500			92	85	81	72	63	54	49	43
600			104	96	92	81	72	62	56	50
700	Contact your local DEQ office for assistance with sizing lagoons in Zones 1 and 2		114	106	102	90	80	69	63	56
800			124	116	111	99	88	76	70	62
900			134	125	119	106	95	82	76	68
1,000			143	133	128	114	102	89	81	73
1,100			151	141	135	121	108	94	87	78
1,200			159	149	143	128	114	100	92	83
1,300			167	156	150	134	120	105	97	88
1,400			174	163	156	140	126	110	102	92
1,500			181	170	163	146	131	115	106	96
1,600			188	176	169	152	136	120	111	100
1,700			195	183	175	158	142	125	115	104
1,800			202	189	181	163	147	129	119	108
1,900			208	195	187	168	151	133	124	112
2,000			214	201	193	173	156	138	128	116
2,500			243	228	219	197	178	157	146	133
3,000			269	252	243	219	198	175	163	149
3,500			293	275	265	239	216	192	178	163

4,000		315	296	285	258	233	207	193	176
4,500		336	316	304	275	249	221	206	189
5,000		356	335	322	292	264	235	219	201

Figure 22. Net Evaporation Zones

COUNTY	ZONE	COUNTY	ZONE	COUNTY	ZONE
Adair	1	Grant	9	Nowata	5
Alfalfa	9	Greer	9	Okfuskee	7
Atoka	6	Harmon	9	Oklahoma	8
Beaver	10	Harper	9	Okmulgee	6
Beckham	9	Haskell	4	Osage	7
Blaine	9	Hughes	6	Ottawa	2
Bryan	6	Jackson	9	Pawnee	7
Caddo	9	Jefferson	9	Payne	7
Canadian	9	Johnston	7	Pittsburg	5
Carter	7	Kay	8	Pontotoc	7
Cherokee	3	Kingfisher	9	Pottawatomie	7
Choctaw	4	Kiowa	9	Pushmataha	3
Cimarron	10	Latimer	3	Roger Mills	9
Cleveland	8	LeFlore	1	Rogers	5
Coal	6	Lincoln	7	Seminole	7
Comanche	9	Logan	8	Sequoyah	3
Cotton	9	Love	7	Stephens	8
Craig	4	McClain	8	Texas	10
Creek	7	McCurtain	1	Tillman	9
Custer	9	McIntosh	5	Tulsa	6
Delaware	1	Major	9	Wagoner	5
Dewey	9	Marshall	7	Washington	6

Ellis	9	Mayes	5	Washita	9
Garfield	9	Murray	7	Woods	9
Garvin	8	Muskogee	5	Woodward	9
Grady	9	Noble	8		

APPENDIX H. SIZE CHARTS FOR ON-SITE SEWAGE TREATMENT SYSTEMS [NEW]

Figure 1. Individual Conventional Subsurface Absorption Fields Designed Using a Percolation Test

Minimum Trench Length in Feet

Soil Percolation Rate (min/inch)	NUMBER OF BEDROOMS IN RESIDENCE†							
	Two or Fewer		Three		Four		Each Add. Bedroom	
	Gravel	Manufactured Media	Gravel	Manufactured Media	Gravel	Manufactured Media	Gravel	Manufactured Media
0-15	200	160	270	215	340	270	70	55
16-30	310	250	410	330	510	410	100	80
31-45	420	340	560	450	700	560	140	110
46-60	590	470	790	630	990	790	200	160
61-75	770	620	1030	830	1290	1040	260	210
>75	Prohibited							

† These figures are based on an average flow of 6,000 gallons per month for a two-bedroom residence with an additional 2,000 gallons per month added for each additional bedroom. The size of the system should be increased if the actual or anticipated water usage exceeds this average.

Figure 2. Individual Conventional Subsurface Absorption Fields Designed Using a Soil Profile Description

Minimum Trench Length in Feet

Soil Group	NUMBER OF BEDROOMS IN RESIDENCE†							
	Two or Fewer		Three		Four		Each Add. Bedroom	
	Gravel	Manufactured Media	Gravel	Manufactured Media	Gravel	Manufactured Media	Gravel	Manufactured Media
1	Prohibited							
2	160	120	210	160	260	195	50	40
2a	250	190	330	250	410	310	80	60
3	340	255	450	340	550	415	100	75
3a	500	375	665	500	830	625	165	120
4	660	500	880	660	1,100	825	220	160
5	Prohibited							

† These figures are based on an average flow of 6,000 gallons per month for a two-bedroom residence with an additional 2,000 gallons per month added for each additional bedroom. The size of the system should be increased if the actual or anticipated water usage exceeds this average.

Figure 3. Minimum Length Requirements Using a Soil Profile Description (Net Evaporation Zones 6-8) [See Figure 20 in this Appendix]

Minimum Trench Length in Feet

Soil Group	NUMBER OF BEDROOMS IN RESIDENCE†							
	Two or Fewer		Three		Four		Each Add. Bedroom	
	Gravel	Manufactured Media	Gravel	Manufactured Media	Gravel	Manufactured Media	Gravel	Manufactured Media
1	Prohibited							
2	135	120	175	160	220	195	50	40
2a	215	190	280	250	350	310	80	60
3	290	255	380	340	465	415	100	75
3a	425	375	565	500	705	625	165	120
4	560	500	750	660	935	825	220	160
5	Prohibited							

† These figures are based on an average flow of 6,000 gallons per month for a two-bedroom residence with an additional 2,000 gallons per month added for each additional bedroom. The size of the system should be increased if the actual or anticipated water usage exceeds this average. Abit S. 2019: Modeling Soil Treatment Area Requirements for Conventional Septic Systems across a Climate Gradient, Oklahoma State University.

Figure 4. Minimum Length Requirements Using a Soil Profile Description (Net Evaporation Zones 9-10) [See Figure 20 in this Appendix]

Minimum Trench Length in Feet

Soil Group	NUMBER OF BEDROOMS IN RESIDENCE†							
	Two or Fewer		Three		Four		Each Add. Bedroom	
	Gravel	Manufactured Media	Gravel	Manufactured Media	Gravel	Manufactured Media	Gravel	Manufactured Media
1	Prohibited							
2	115	115	150	150	185	185	50	40
2a	175	175	230	230	290	290	80	60
3	240	240	315	315	385	385	100	75
3a	350	350	465	465	580	580	165	120
4	460	460	620	620	770	770	220	160
5	Prohibited							

† These figures are based on an average flow of 6,000 gallons per month for a two-bedroom residence with an additional 2,000 gallons per month added for each additional bedroom. The size of the system should be increased if the actual or anticipated water usage exceeds this average. Abit S. 2019: Modeling Soil Treatment Area Requirements for Conventional Septic Systems across a Climate Gradient, Oklahoma State University.

Figure 5. Small Public Conventional Subsurface Absorption Fields Designed Using a Percolation Test

Minimum Linear Feet per Gallon per Day

PERCOLATION RATE FOR DISPERSAL SITE	LINEAR FEET PER GALLON PER DAY
0-15 minutes per inch	1.2
16-30 minutes per inch	1.5
31-45 minutes per inch	2
46-60 minutes per inch	2.5
61-75 minutes per inch	3.85
>75 minutes per inch	Prohibited

Figure 6. Small Public Conventional Subsurface Absorption Fields Designed Using a Soil Profile Description

Minimum Linear Feet per Gallon per Day

SOIL GROUP	LINEAR FEET PER GALLON PER DAY
1	Prohibited
2	0.8
2a	1.3
3	1.7
3a	2.5
4	3.3
5	Prohibited

Figure 7. Individual Shallow Extended Subsurface Absorption Fields Designed Using a Soil Profile Description

Minimum Trench Length in Feet

SOIL GROUP	NUMBER OF BEDROOMS IN RESIDENCE†			
	Two or Fewer	Three	Four	Each Additional Bedroom
1	Prohibited			
2	260	340	420	80
2a	400	530	660	130
3	540	720	900	180
3a	800	1,060	1,320	260
4	1,060	1,410	1,760	350
5	Prohibited			

† These figures are based on an average flow of 6,000 gallons per month for a two-bedroom residence with an additional 2,000 gallons per month added for each additional bedroom. The size of the system should be increased if the actual or anticipated water usage exceeds this average.

Figure 8. Small Public Shallow Extended Subsurface Absorption Fields Designed Using a Soil Profile Description

Minimum Linear Feet per Gallon per Day

SOIL GROUP	LINEAR FEET PER GALLON PER DAY
1	Prohibited
2	1.3
2a	2.1
3	2.7
3a	4.0
4	5.3
5	Prohibited

Figure 9. Individual ET/A Fields Designed Using a Soil Profile Description - Soil Group 5 Only

Minimum Trench Length in Feet

ZONE [See Figure 25 in this Appendix (relating to net evaporation zones)]	**NUMBER OF BEDROOMS IN RESIDENCE †**			
	Two or Fewer	**Three**	**Four**	**Each Additional Bedroom**
1	2,059	2,745	3,432	686
2	1,872	2,496	3,120	624
3	1,647	2,196	2,745	549
4	1,471	1,961	2,451	490
5	1,373	1,830	2,288	457
6	1,144	1,525	1,907	381
7	958	1,277	1,596	319
8	792	1,056	1,320	264
9	675	900	1,125	225
10	580	773	967	193

† These figures are based on an average flow of 6,000 gallons per month for a two-bedroom residence with an additional 2,000 gallons per month added for each additional bedroom. The size of the system should be increased if the actual or anticipated water usage exceeds this average.

Figure 10. Small Public ET/A Fields Designed Using a Soil Profile Description - Soil Group 5 Only

Minimum Trench Length in Feet

AVERAGE DAILY FLOW (In Gallons)	ZONE [See Figure 25 in this Appendix (relating to net evaporation zones)]									
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
25	261	238	209	187	174	145	122	100	86	70
50	522	475	418	373	348	290	243	200	171	141
75	783	712	626	560	522	435	364	300	257	212
100	1,044	949	835	746	696	580	485	401	342	282
200	2,088	1,898	1,670	1,491	1,392	1,160	971	803	684	564
300	3,131	2,847	2,505	2,237	2,088	1,740	1,456	1,204	1,027	846
400	4,175	3,796	3,340	2,982	2,784	2,320	1,942	1,606	1,369	1,128
500	5,219	4,745	4,175	3,728	3,479	2,899	2,427	2,007	1,711	1,411
600	6,263	5,694	5,010	4,473	4,175	3,479	2,913	2,409	2,053	1,693
700	7,307	6,642	5,845	5,219	4,871	4,059	3,398	2,810	2,396	1,975
800	8,351	7,591	6,680	5,965	5,567	4,639	3,884	3,112	2,738	2,257
900	9,394	8,540	7,515	6,710	6,263	5,219	4,369	3,613	3,080	2,539
1,000	10,438	9,489	8,351	7,456	6,959	5,799	4,855	4,015	3,422	2,821
1,100	11,482	10,438	9,186	8,201	7,655	6,379	5,340	4,416	3,765	3,105
1,200	12,526	11,387	10,021	8,947	8,351	6,959	5,826	4,818	4,107	3,385
1,300	13,570	12,336	10,856	9,693	9,046	7,539	6,311	5,219	4,449	3,667
1,400	14,613	13,285	11,691	10,438	9,742	8,119	6,797	5,621	4,791	3,950
1,500	15,657	14,234	12,526	11,184	10,438	8,698	7,282	6,022	5,134	4,232
1,600	16,701	15,183	13,361	11,929	11,134	9,278	7,768	6,423	5,476	4,514
1,700	17,745	16,132	14,196	12,675	11,830	9,858	8,253	6,825	5,818	4,796
1,800	18,789	17,081	15,031	13,420	12,526	10,438	8,739	7,226	6,160	5,078
1,900	19,832	18,030	15,866	14,166	13,222	11,018	9,224	7,628	6,502	5,360
2,000	20,876	18,978	16,701	14,912	13,918	11,598	9,710	8,029	6,845	5,642
2,500	26,095	23,718	20,876	18,640	17,397	14,498	12,138	10,037	8,556	7,053
3,000	31,314	28,458	25,052	22,367	20,876	17,397	14,565	12,044	10,267	8,463
3,500	36,533	33,212	29,227	26,096	24,356	20,296	16,993	14,052	11,978	9,874
4,000	41,753	37,957	33,402	29,823	27,835	23,196	19,420	16,059	13,689	11,284
4,500	46,972	42,702	37,578	33,551	31,314	26,096	21,848	18,066	15,401	12,695
5,000	52,191	47,446	41,573	37,279	34,794	28,995	24,275	20,073	17,112	14,106

Figure 11. Drip Irrigation Fields Designed Using a Soil Profile Description

Minimum Trench Length in Feet

SOIL GROUP	NUMBER OF BEDROOMS IN RESIDENCE†				Small Public Systems
	Two or Fewer	Three	Four	Each Additional Bedroom	Feet per Gallon per Day
1	125	165	205	40	0.70
2	160	210	260	50	0.80
2a	250	330	410	80	1.3
3	340	450	550	100	1.7
3a	500	665	830	165	2.5
4	660	880	1,100	220	3.3
5	1,000	1,330	1,660	330	5.0

† These figures are based on an average flow of 6,000 gallons per month for a two-bedroom residence with an additional 2,000 gallons per month added for each additional bedroom. The size of the system should be increased if the actual or anticipated water usage exceeds this average.

Figure 12. Individual Spray Irrigation Fields Designed Using a Soil Profile Description – Net Evaporation Zone 1 and 2

[See Figure 20 in this Appendix (relating to net evaporation zones)]

Minimum Spray Irrigation Area in Square Feet

SOIL GROUP	NUMBER OF BEDROOMS IN RESIDENCE†			
	Two or Fewer	Three	Four	Each Additional Bedroom
1	2,920	3,885	4,862	963
2	3,212	4,273	5,348	1,084
2a	3,504	4,662	5,835	1,156
3	3,796	5,050	6,321	1,252
3a	4,088	5,439	6,807	1,348
4	4,380	5,827	7,293	1,445
5	5,840	7,770	9,725	1,927

† These figures are based on an average flow of 6,000 gallons per month for a two-bedroom residence with an additional 2,000 gallons per month added for each additional bedroom. The size of the system should be increased if the actual or anticipated water usage exceeds this average.

Figure 13. Individual Spray Irrigation Fields Designed Using a Soil Profile Description–Net Evaporation Zone 3

[See Figure 20 in this Appendix (relating to net evaporation zones)]

Minimum Spray Irrigation Area in Square Feet

SOIL GROUP	NUMBER OF BEDROOMS IN RESIDENCE†			
	Two or Fewer	**Three**	**Four**	**Each Additional Bedroom**
1	2,335	3,107	3,890	770
2	2,568	3,418	4,279	847
2a	2,802	3,729	4,668	924
3	3,035	4,039	5,057	1,001
3a	3,269	4,350	5,446	1,078
4	3,502	4,661	5,835	1,156
5	4,670	6,215	7,780	1,541

†These figures are based on an average flow of 6,000 gallons per month for a two-bedroom residence with an additional 2,000 gallons per month added for each additional bedroom. The size of the system should be increased if the actual or anticipated water usage exceeds this average.

Figure 14. Individual Spray Irrigation Fields Designed Using a Soil Profile Description–Net Evaporation Zone 4 and 5

[See Figure 20 in this Appendix (relating to net evaporation zones)]

Minimum Spray Irrigation Area in Square Feet

SOIL GROUP	NUMBER OF BEDROOMS IN RESIDENCE†			
	Two or Fewer	**Three**	**Four**	**Each Additional Bedroom**
1	1,821	2,428	3,034	607
2	2,003	2,670	3,337	667
2a	2,185	2,913	3,641	728
3	2,367	3,156	3,944	789
3a	2,549	3,399	4,248	850
4	2,731	3,641	4,551	910
5	3,641	4,855	6,068	1,214

†These figures are based on an average flow of 6,000 gallons per month for a two-bedroom residence with an additional 2,000 gallons per month added for each additional bedroom. The size of the system should be increased if the actual or anticipated water usage exceeds this average.

Figure 15. Individual Spray Irrigation Fields Designed Using a Soil Profile Description– Net Evaporation Zone 6 and 7

[See Figure 20 in this Appendix (relating to net evaporation zones)]

Minimum Spray Irrigation Area in Square Feet

SOIL GROUP	NUMBER OF BEDROOMS IN RESIDENCE†			
	Two or Fewer	**Three**	**Four**	**Each Additional Bedroom**
1	1,324	1,766	2,207	447
2	1,456	1,942	2,427	486
2a	1,589	2,119	2,648	530
3	1,721	2,295	2,868	574
3a	1,854	2,475	3,089	618
4	1,986	2,648	3,310	662
5	2,648	3,531	4,413	883

†These figures are based on an average flow of 6,000 gallons per month for a two-bedroom residence with an additional 2,000 gallons per month added for each additional bedroom. The size of the system should be increased if the actual or anticipated water usage exceeds this average.

Figure 16. Individual Spray Irrigation Fields Designed Using a Soil Profile Description– Net Evaporation Zone 8, 9, and 10

[See Figure 20 in this Appendix (relating to net evaporation zones)]

Minimum Spray Irrigation Area in Square Feet

SOIL GROUP	NUMBER OF BEDROOMS IN RESIDENCE†			
	Two or Fewer	**Three**	**Four**	**Each Additional Bedroom**
1	940	1,253	1,566	313
2	1,033	1,378	1,723	345
2a	1,127	1,504	1,879	377
3	1,221	1,629	2,036	408
3a	1,315	1,754	2,192	430
4	1,409	1,880	2,349	471
5	1,879	2,506	3,132	627

†These figures are based on an average flow of 6,000 gallons per month for a two-bedroom residence with an additional 2,000 gallons per month added for each additional bedroom. The size of the system should be increased if the actual or anticipated water usage exceeds this average.

Figure 17. Small Public Spray Irrigation Fields Designed Using a Soil Profile Description–

[See Figure 20 in this Appendix (relating to net evaporation zones)]

Minimum Spray Irrigation Area in Square Feet per Gallon per day

SOIL GROUP	NET EVAPORATION ZONES				
	1 and 2	**3**	**4 and 5**	**6 and 7**	**8,9, and 10**
1	15	12	9	7	5
2	16	13	10	7	5
2a	18	14	11	8	6
3	19	15	12	9	6
3a	21	16	13	9	7
4	22	18	14	10	7
5	29	23	18	13	9

Figure 18. Individual Lagoons

Length in Feet of Each Side of the Bottom of a Square Individual Lagoon

ZONE [See Figure 25 in this Appendix (relating to net evaporation zones)]	NUMBER OF BEDROOMS IN RESIDENCE†			
	Two or Fewer	**Three**	**Four**	**Five**
1	Contact your local DEQ office for assistance with sizing lagoons in Zones 1 and 2			
2				
3	40	50	60	65
4	35	45	55	60
5	30	40	50	55
6	25	35	45	50
7	20	30	35	45
8	20	25	30	35
9	15	20	25	30
10	10	15	20	25

† These figures are based on an average flow of 6,000 gallons per month for a two-bedroom residence with an additional 2,000 gallons per month added for each additional bedroom. The size of the system should be increased if the actual or anticipated water usage exceeds this average.

Diameter in Feet of the Bottom of a Round Individual Lagoon

ZONE [See Figure 25 in this Appendix (relating to net evaporation zones)]	**NUMBER OF BEDROOMS IN RESIDENCE†**			
	Two or Fewer	**Three**	**Four**	**Five**
1	Contact your local DEQ office for assistance with sizing lagoons in Zones 1 and 2			
2				
3	50	60	70	80
4	45	55	65	75
5	40	50	60	70
6	35	45	50	60
7	30	40	45	55
8	25	30	40	45
9	20	30	35	40
10	15	25	30	35

† These figures are based on an average flow of 6,000 gallons per month for a two-bedroom residence with an additional 2,000 gallons per month added for each additional bedroom. The size of the system should be increased if the actual or anticipated water usage exceeds this average.

Figure 19. Small Public Lagoons

Length in Feet of Each Side of the Bottom of a Square Small Public Lagoon

AVERAGE DAILY FLOW (gallons)	ZONE [See Figure 25 of this Appendix (relating to net evaporation zones)]									
	1	2	3	4	5	6	7	8	9	10
100	Contact your local DEQ office for assistance with sizing lagoons in Zones 1 and 2		18	16	14	10	Prohibited			
200			38	35	32	27	22	17	14	11
300			54	49	46	40	34	28	24	20
400			67	61	58	51	44	37	32	27
500			78	72	69	60	52	45	39	34
600			88	82	78	69	60	52	46	40
700			98	91	87	77	68	59	52	46
800			107	99	95	84	74	65	58	51
900			115	107	102	91	81	71	63	56
1,000			123	114	110	97	87	76	68	61
1,100			130	122	116	104	92	81	73	65
1,200			138	128	123	110	98	86	77	69
1,300			144	135	129	115	103	91	82	73
1,400			151	141	135	121	108	95	86	77
1,500			157	147	141	126	113	100	90	81
1,600			163	153	147	131	117	104	94	85
1,700			169	158	152	136	122	108	98	88
1,800			175	164	157	141	126	112	101	92
1,900			181	169	162	146	131	116	105	95
2,000			186	174	167	150	135	120	108	98
2,500			212	198	190	171	154	137	125	114
3,000			235	220	212	191	172	154	140	127
3,500			256	240	231	209	188	168	153	140
4,000			276	259	249	225	203	182	166	151
4,500			295	276	266	240	218	195	178	163
5,000			312	293	282	255	231	207	189	173

Diameter in Feet of the Bottom of a Round Small Public Lagoon

AVERAGE DAILY FLOW (gallons)	**ZONE** [See Figure 25 of this Appendix (relating to net evaporation zones)]									
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
100	Contact your local DEQ office for assistance with sizing lagoons in Zones 1 and 2		25	22	20	15	Prohibited			
200			47	43	40	34	29	23	20	16
300			65	59	56	49	42	35	31	26
400			79		70	61	53	45	40	35
500			92	85	81	72	63	54	49	43
600			104	96	92	81	72	62	56	50
700			114	106	102	90	80	69	63	56
800			124	116	111	99	88	76	70	62
900			134	125	119	106	95	82	76	68
1,000			143	133	128	114	102	89	81	73
1,100			151	141	135	121	108	94	87	78
1,200			159	149	143	128	114	100	92	83
1,300			167	156	150	134	120	105	97	88
1,400			174	163	156	140	126	110	102	92
1,500			181	170	163	146	131	115	106	96
1,600			188	176	169	152	136	120	111	100
1,700			195	183	175	158	142	125	115	104
1,800			202	189	181	163	147	129	119	108
1,900			208	195	187	168	151	133	124	112
2,000			214	201	193	173	156	138	128	116
2,500			243	228	219	197	178	157	146	133
3,000			269	252	243	219	198	175	163	149
3,500			293	275	265	239	216	192	178	163
4,000			315	296	285	258	233	207	193	176
4,500			336	316	304	275	249	221	206	189
5,000			356	335	322	292	264	235	219	201

Figure 20. Net Evaporation Zones

COUNTY	ZONE	COUNTY	ZONE	COUNTY	ZONE
Adair	1	Grant	9	Nowata	5
Alfalfa	9	Greer	9	Okfuskee	7
Atoka	6	Harmon	9	Oklahoma	8
Beaver	10	Harper	9	Okmulgee	6
Beckham	9	Haskell	4	Osage	7
Blaine	9	Hughes	6	Ottawa	2
Bryan	6	Jackson	9	Pawnee	7
Caddo	9	Jefferson	9	Payne	7
Canadian	9	Johnston	7	Pittsburg	5
Carter	7	Kay	8	Pontotoc	7
Cherokee	3	Kingfisher	9	Pottawatomie	7
Choctaw	4	Kiowa	9	Pushmataha	3
Cimarron	10	Latimer	3	Roger Mills	9
Cleveland	8	LeFlore	1	Rogers	5
Coal	6	Lincoln	7	Seminole	7
Comanche	9	Logan	8	Sequoyah	3
Cotton	9	Love	7	Stephens	8
Craig	4	McClain	8	Texas	10
Creek	7	McCurtain	1	Tillman	9
Custer	9	McIntosh	5	Tulsa	6
Delaware	1	Major	9	Wagoner	5
Dewey	9	Marshall	7	Washington	6
Ellis	9	Mayes	5	Washita	9
Garfield	9	Murray	7	Woods	9
Garvin	8	Muskogee	5	Woodward	9
Grady	9	Noble	8		

APPENDIX I. EXAMPLE OF THE REQUIREMENTS FOR A SEPTIC TANK [REVOKED]

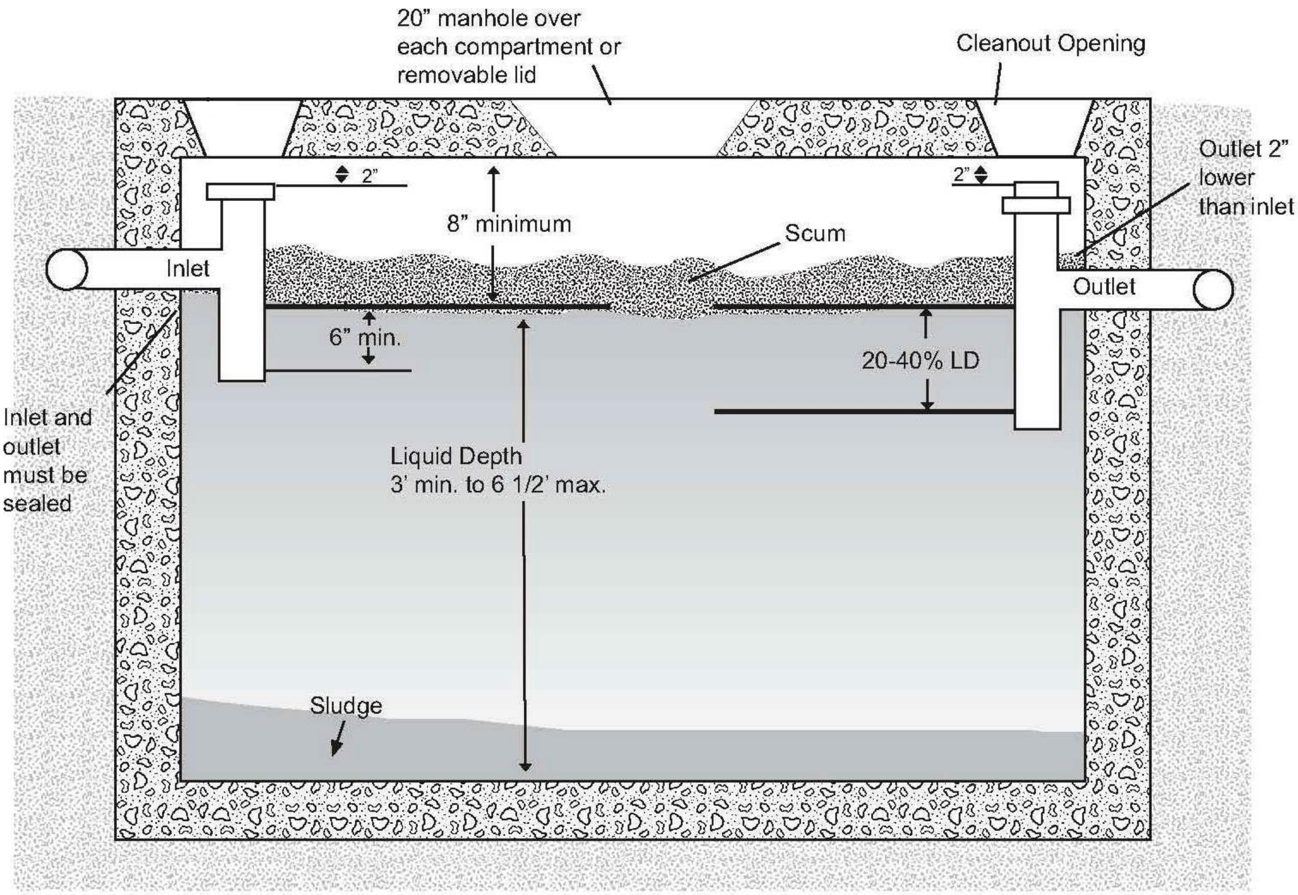


Figure 1. Level Systems (Top View)

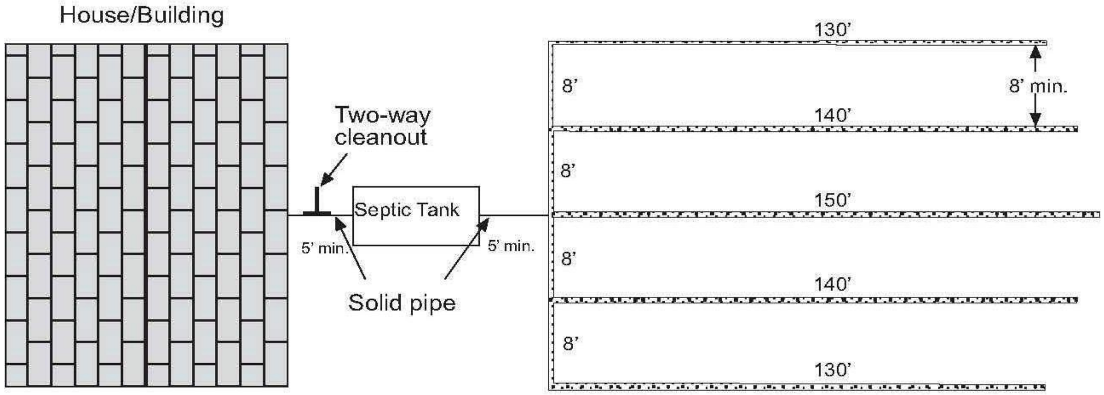


Figure 2. Level Systems (Side View)

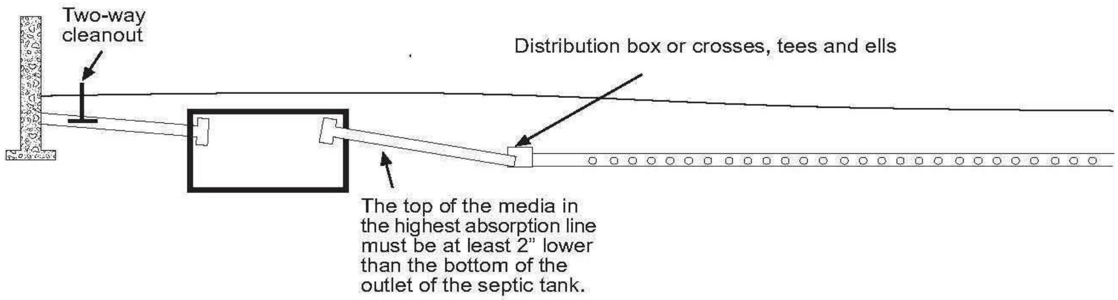
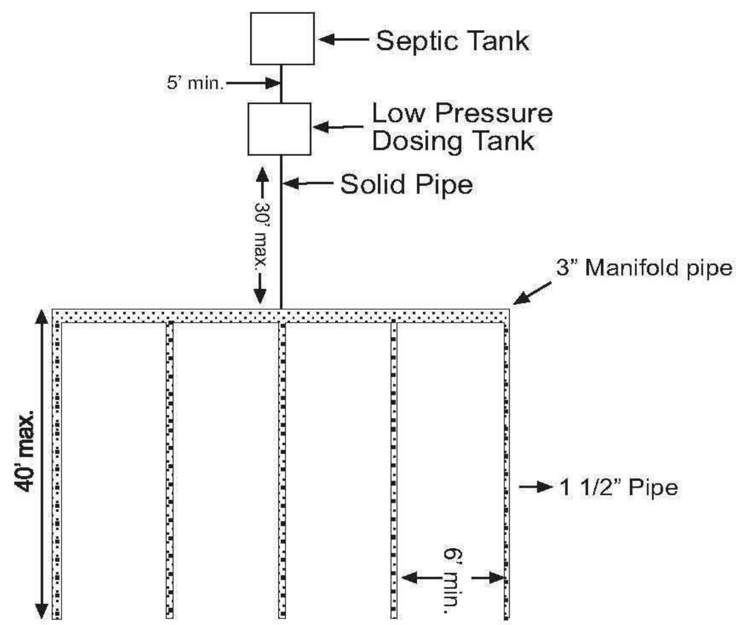


Figure 3. Low Pressure Dosing



APPENDIX I. EXAMPLE OF THE REQUIREMENTS FOR A SEPTIC TANK [NEW]

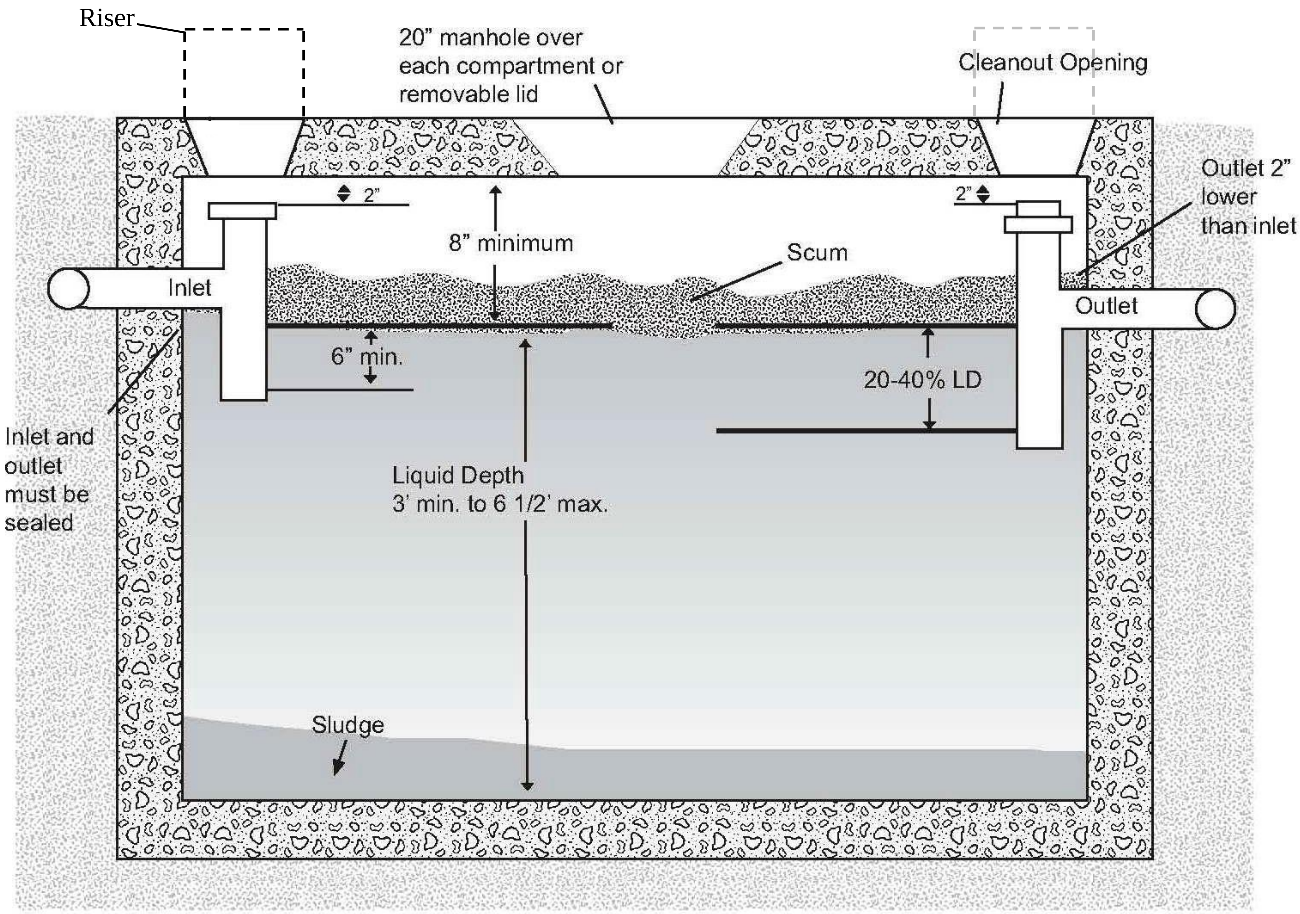


Figure 1. Level Systems (Top View)

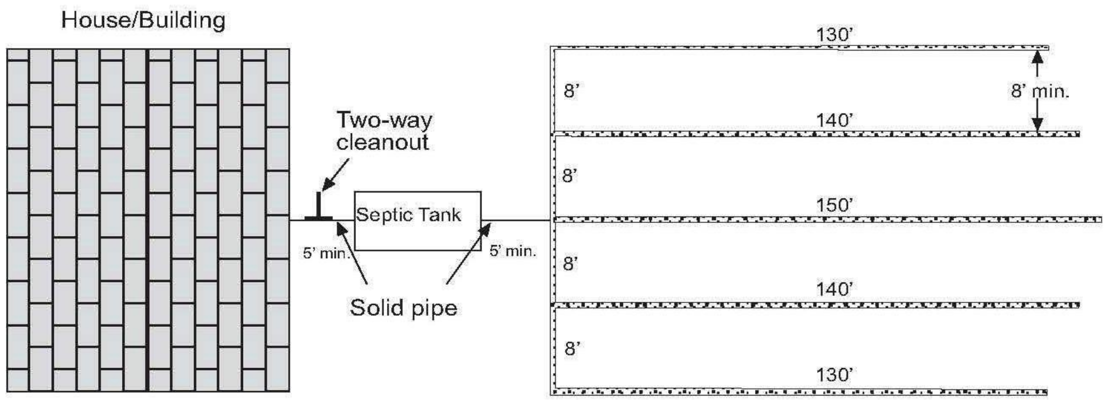


Figure 2. Level Systems (Side View)

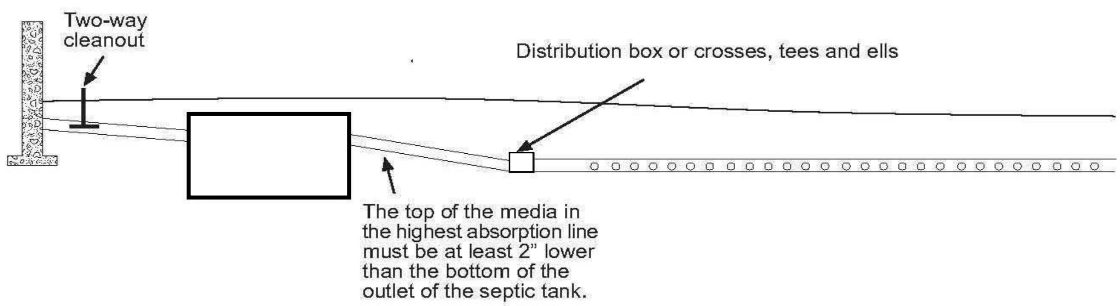
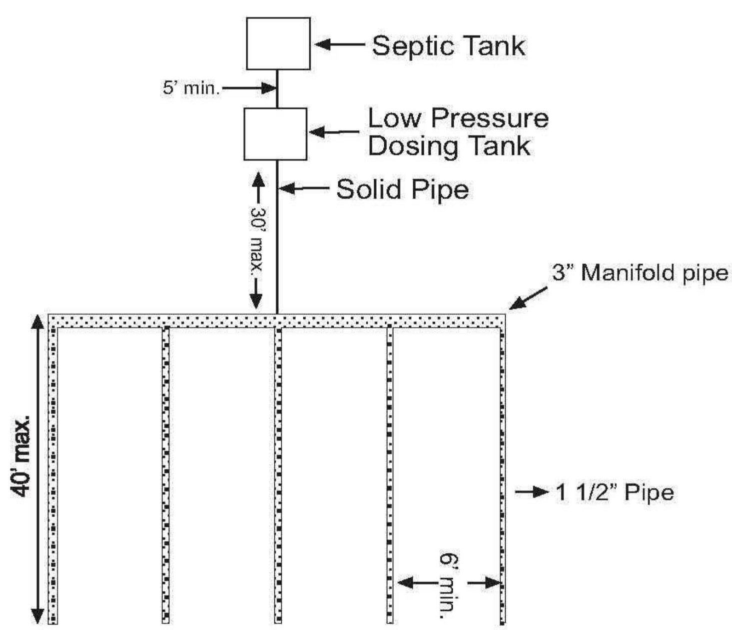


Figure 3. Low Pressure Dosing



APPENDIX K. EXAMPLE LAYOUTS OF CONVENTIONAL SUBSURFACE ABSORPTION SYSTEMS, LOW PRESSURE DOSING SYSTEMS AND ET/A SYSTEMS [REVOKED]

Figure 4. Retention Systems (Top View)

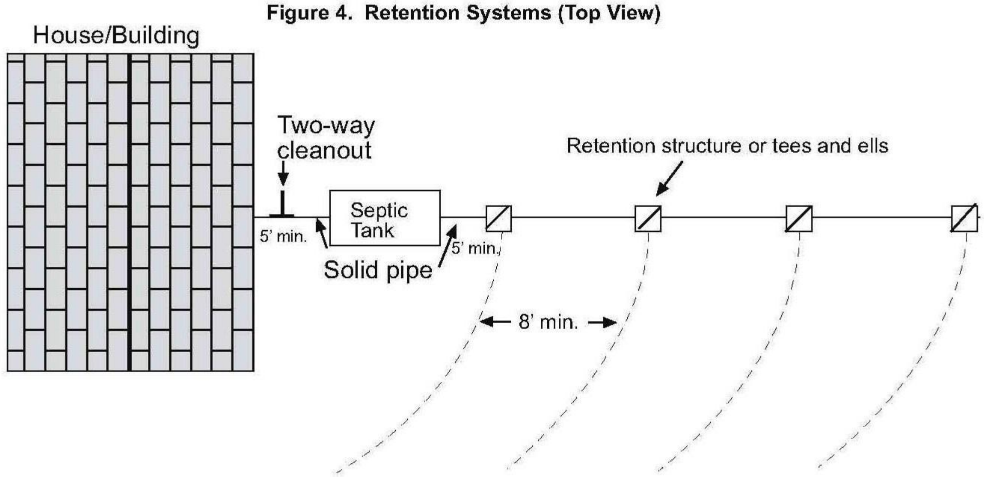
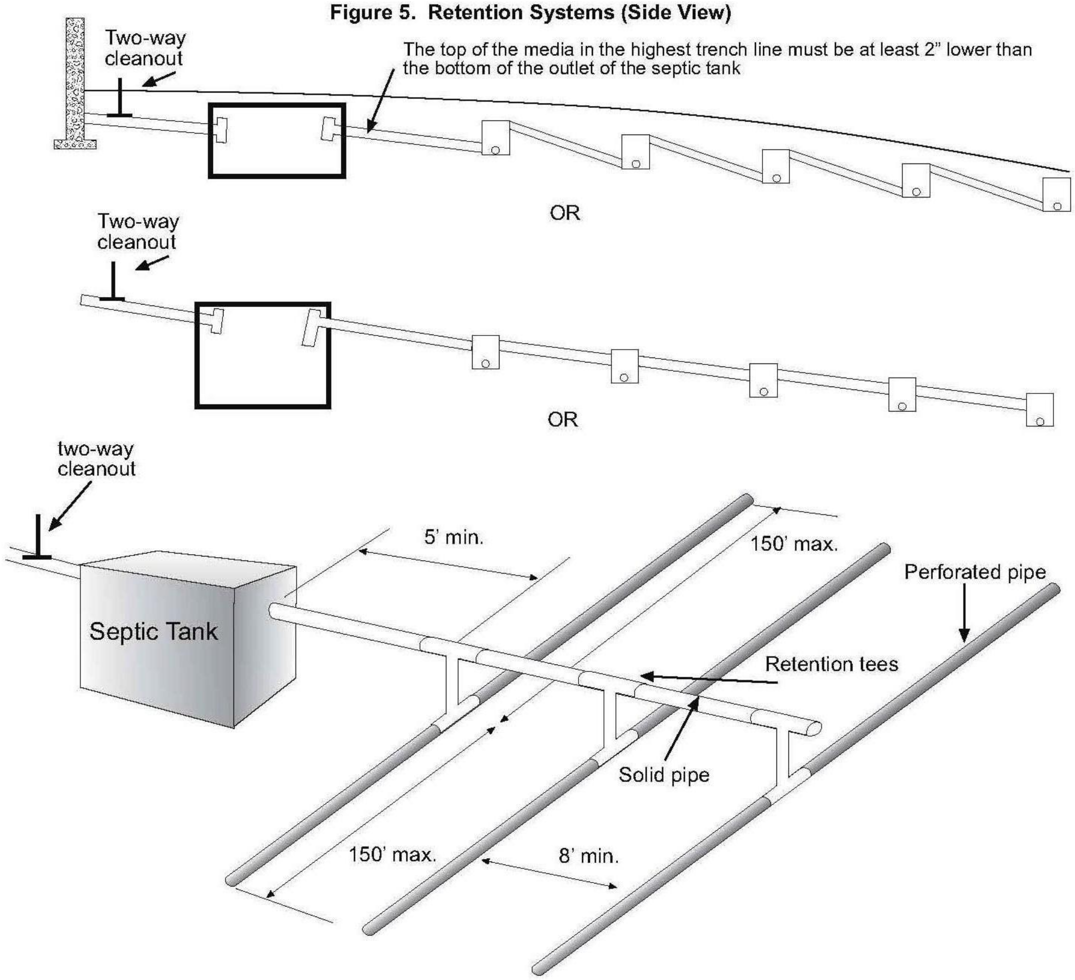


Figure 5. Retention Systems (Side View)



APPENDIX K. EXAMPLE LAYOUTS OF CONVENTIONAL SUBSURFACE ABSORPTION SYSTEMS AND ET/A SYSTEMS [NEW]

Figure 4. Retention Systems (Top View)

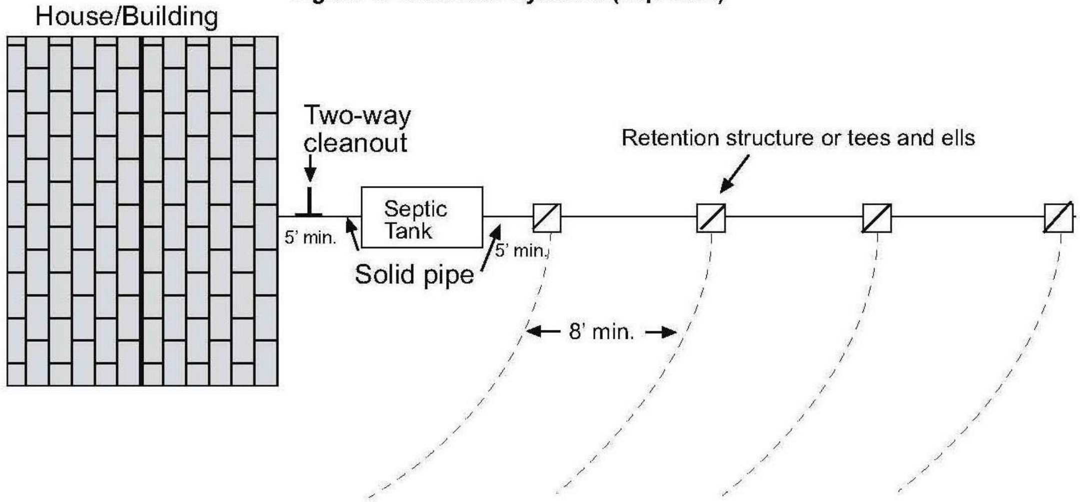


Figure 5. Retention Systems (Side View)