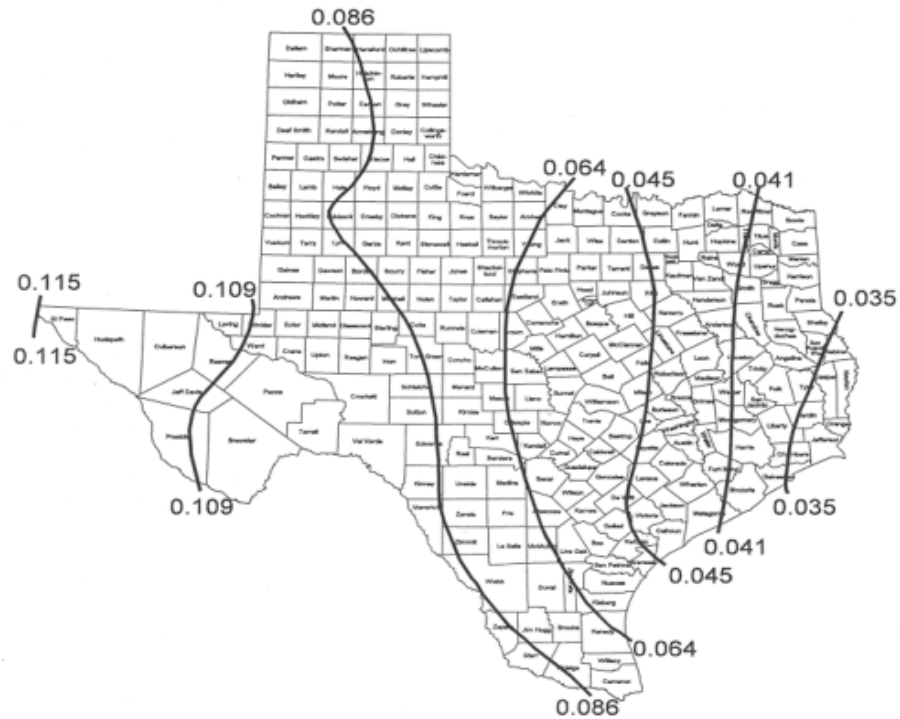


SUBCHAPTER I: APPENDICES
§285.90, §285.91
Effective September 11, 2008

§285.90. Figures.

The following figures are necessary for the proper location, planning, construction, and installation of an on-site sewage facility (OSSF).

(1) Figure 1. Maximum Application Rates for Surface Application of Treated Effluent in Texas.



Note: To obtain the application rate for any particular area, refer to the isopleth line to the left of the area.

(2) Figure 2. Model Affidavit to the Public.

Figure 2. Model Affidavit to the Public.

THE COUNTY OF (insert county name))
STATE OF TEXAS)

AFFIDAVIT

According to Texas Commission on Environmental Quality Rules for On-Site Sewage (OSSFs) Facilities, this document is filed in the Deed Records of (insert county name) County, Texas.

I

The Texas Health and Safety Code, Chapter 366 authorizes the Texas Commission on Environmental Quality (commission) to regulate on-site sewage facilities (OSSFs). Additionally, the Texas Water Code (TWC), §5.012 and §5.013, gives the commission primary responsibility for implementing the laws of the State of Texas relating to water and adopting rules necessary to carry out its powers and duties under the TWC. The commission, under the authority of the TWC and the Texas Health and Safety Code, requires owners to provide notice to the public that certain types of OSSFs are located on specific pieces of property. To achieve this notice, the commission requires a recorded affidavit. Additionally, the owner must provide proof of the recording to the OSSF permitting authority. This recorded affidavit is not a representation or warranty by the commission of the suitability of this OSSF, nor does it constitute any guarantee by the commission that the appropriate OSSF was installed.

II

An OSSF requiring a maintenance contract, according to 30 Texas Administrative Code §285.91(12) will be installed on the property described as (insert legal description):

The property is owned by (insert owner's full name)

This OSSF shall be covered by a continuous service policy for the first two years. After the initial two-year service policy, the owner of an aerobic treatment system for a single family residence shall either obtain a maintenance contract within 30 days or maintain the system personally.

Upon sale or transfer of the above-described property, the permit for the OSSF shall be transferred to the buyer or new owner. A copy of the planning materials for the OSSF may be obtained from (insert name of permitting authority).

WITNESS BY HAND(S) ON THIS ____ DAY OF _____, _____.

(Owner(s) signature(s))

SWORN TO AND SUBSCRIBED BEFORE ME ON THIS ____ DAY OF

_____, _____.

Notary Public, State of Texas
Notary's Printed Name:
My Commission Expires:

(3) Figure 3. Sample Testing and Reporting Record.

Figure 3. Sample Testing and Reporting Record.

This testing and reporting record shall be completed, signed, and dated after each maintenance check and test. One copy shall be retained by the maintenance provider performing the maintenance. The second copy shall be sent to the local permitting authority and the third copy shall be sent to the system owner.

1. Required frequency of maintenance check and tests - (daily, weekly, monthly, quarterly, every 4 months).
Actual date of test: _____

2. System inspection: Property Address: _____
 Permit Number: _____
 Person Performing Inspection: _____

(Signature of Licensed Maintenance Provider)

Company Name (if applicable): _____

Company physical address: _____

Company Telephone: _____

| Inspected Item | Operational | Inoperative |
|----------------|-------------|-------------|
| Aerators | | |

Filters

Irrigation Pumps

Recirculation Pumps

Sludge Condition

Disinfection Device

Chlorine Supply

Electrical Circuits

Distribution System

Sprayfield Vegetation/Seeding
(if applicable)

Other as Noted

3. Repairs to system (list all components replaced): _____

4. Tests required and results:

| Test | Required | | Results mg/l, mpn/100 ml, or trace | Test Method |
|------|----------|----|---------------------------------------|----------------|
| | Yes | No | | |

BOD (Grab)

TSS (Grab)

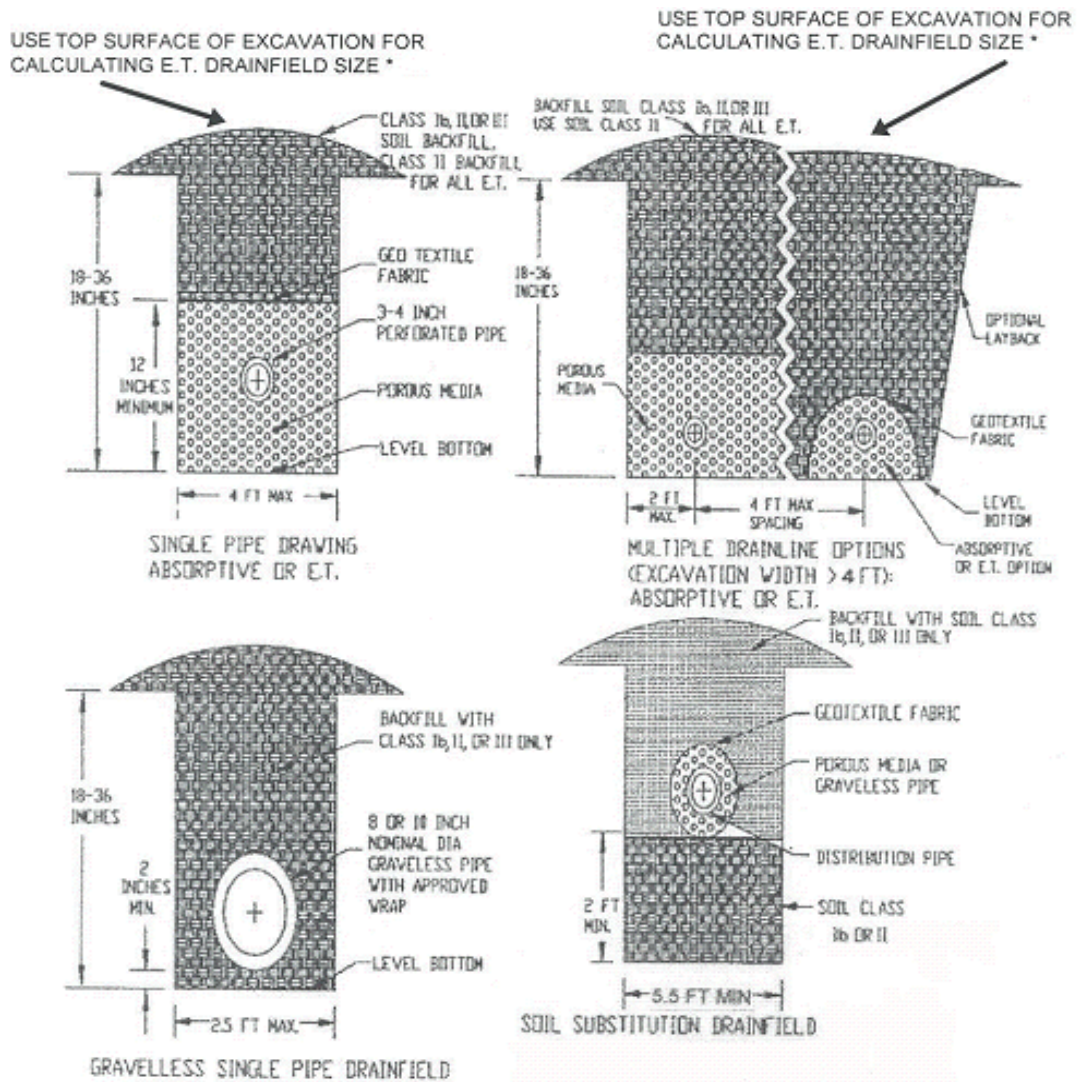
Cl₂ (Grab)

Fecal Coliform

5. Date(s) responded to owner complaints during reporting period (attach copy of complaint and findings):

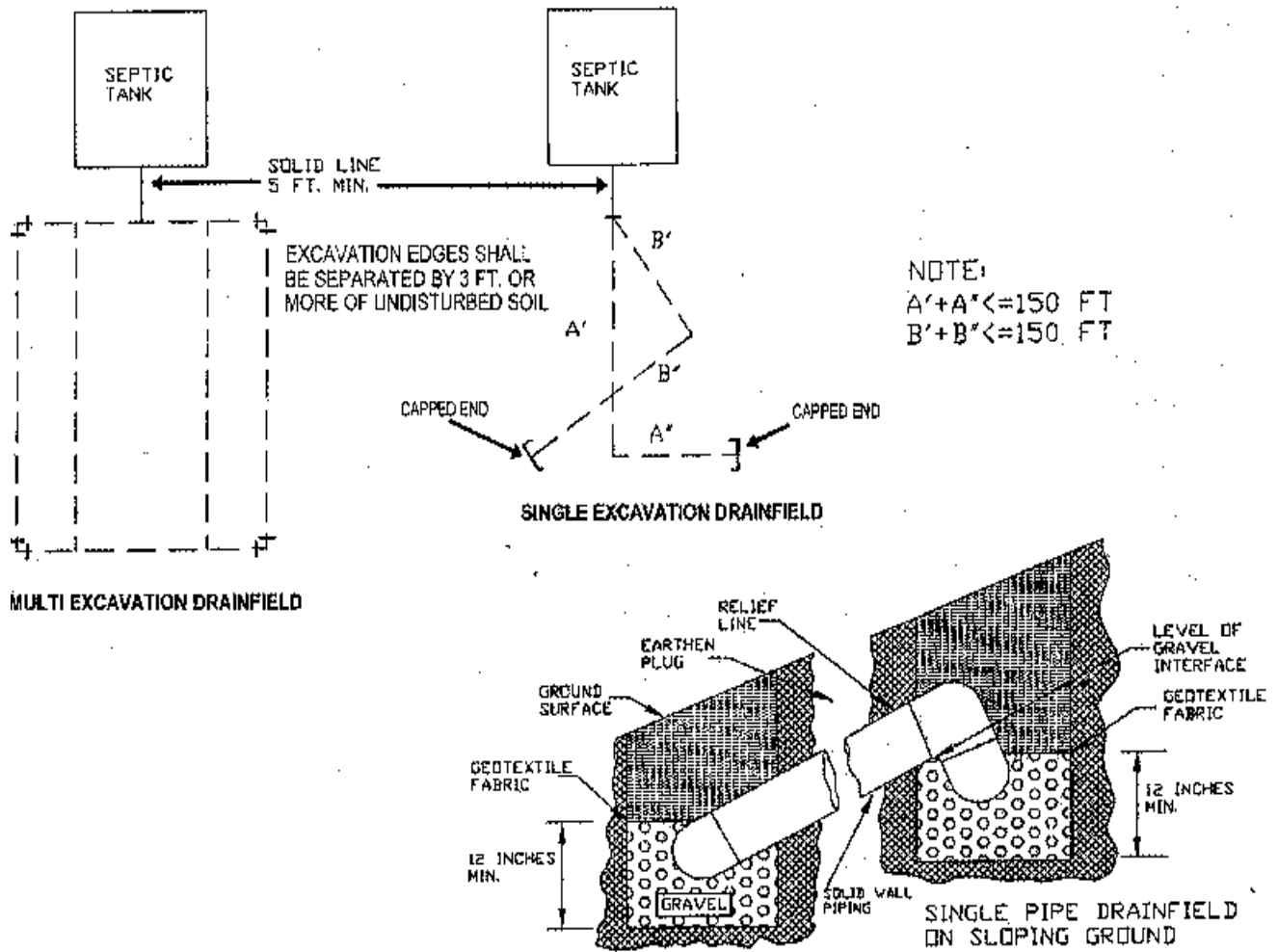
6. General comments or recommendations: _____

(4) Figure 4. Typical Drainfields - Sectional View.

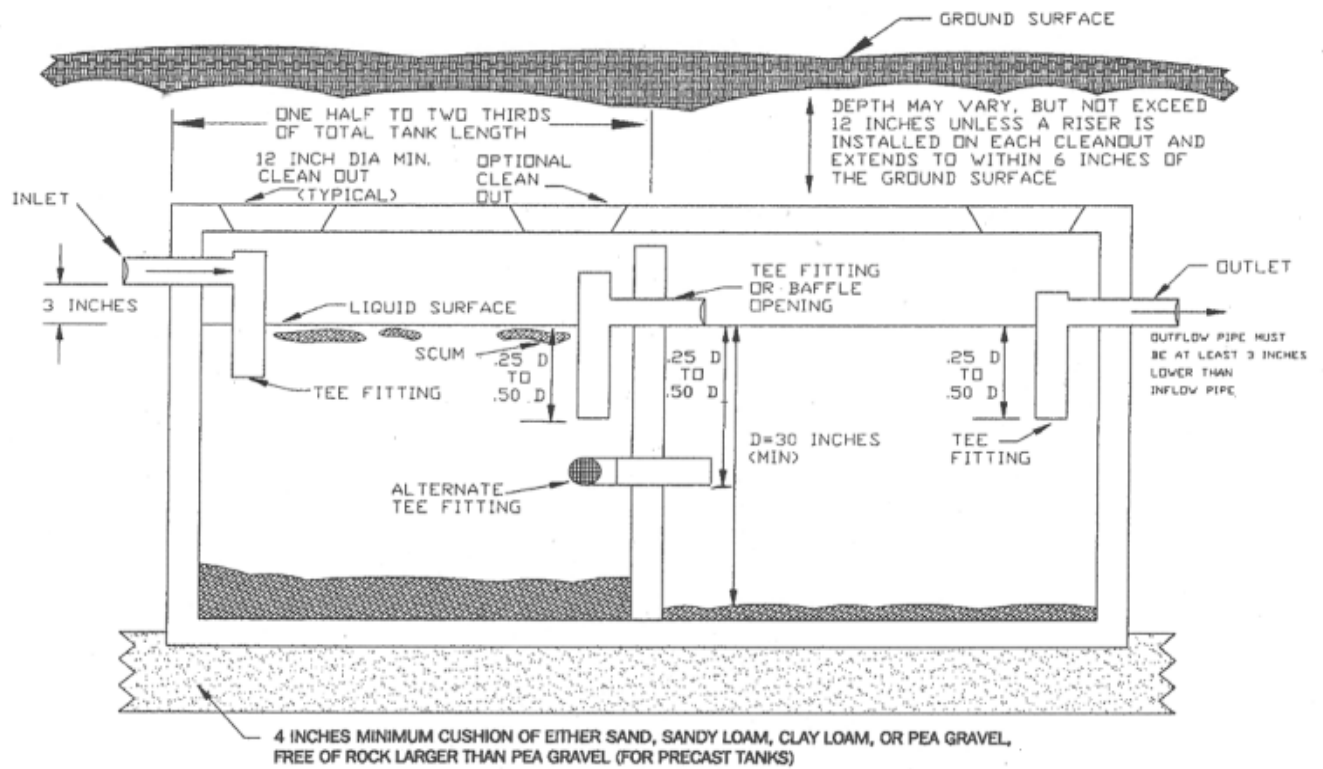


* Credit for top surface area shall be limited to 2 feet past outside drainline.

(5) Figure 5. Typical Drainfields.

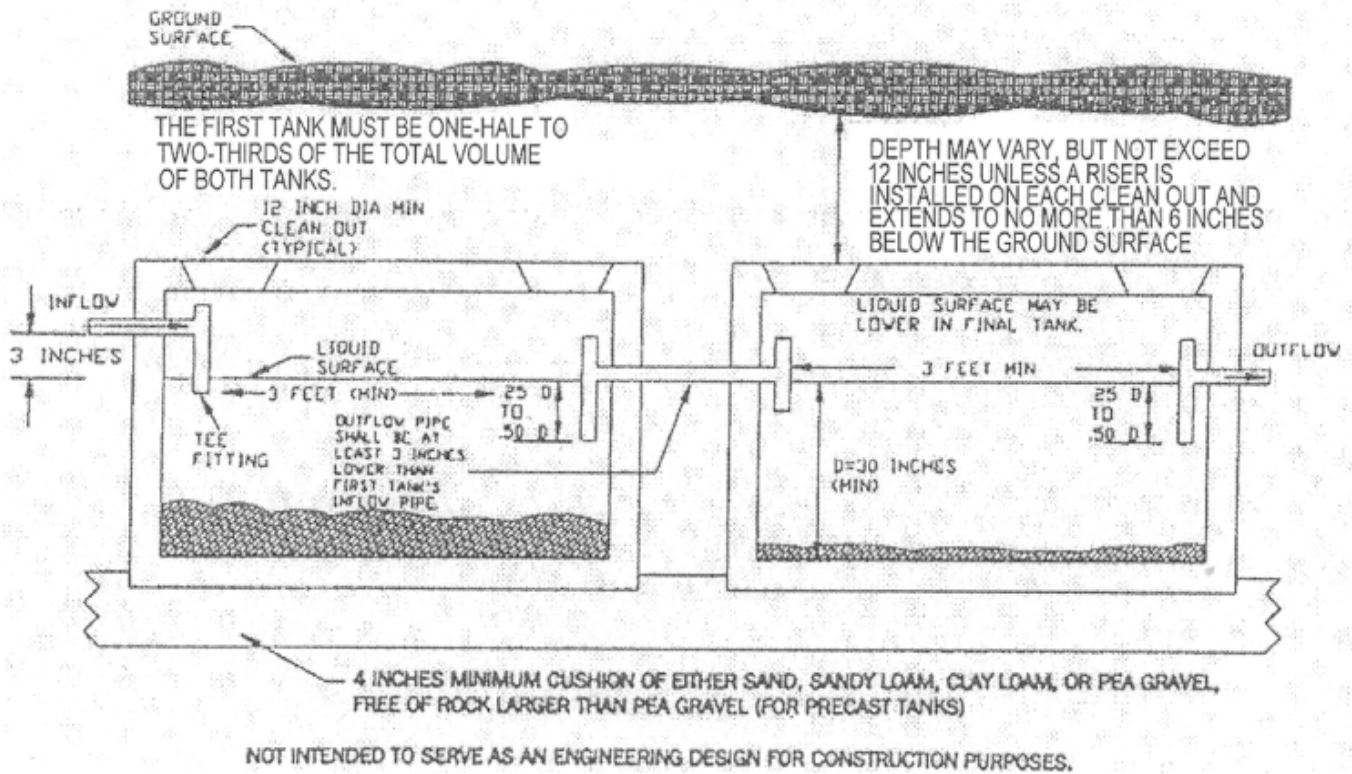


(6) Figure 6. Two Compartment Septic Tank.

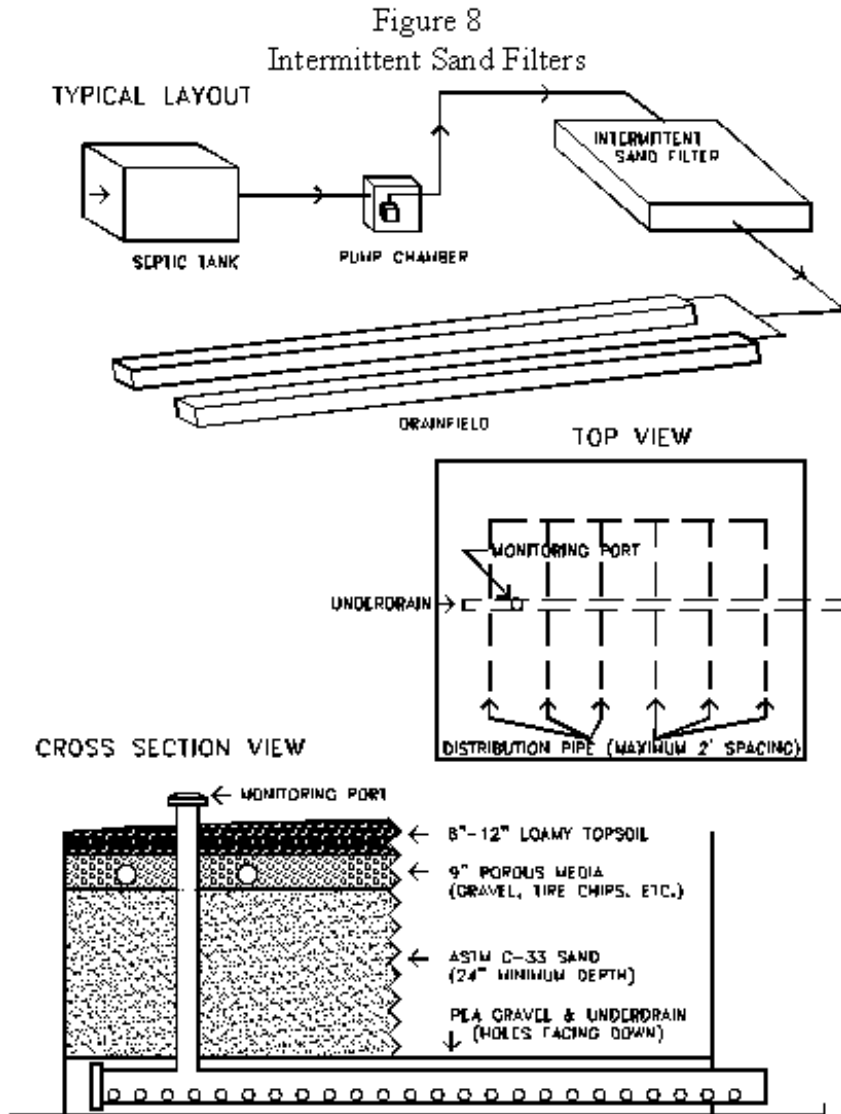


NOT INTENDED TO SERVE AS AN ENGINEERING DESIGN FOR CONSTRUCTION PURPOSES.

(7) Figure 7. Two Septic Tanks in Series.

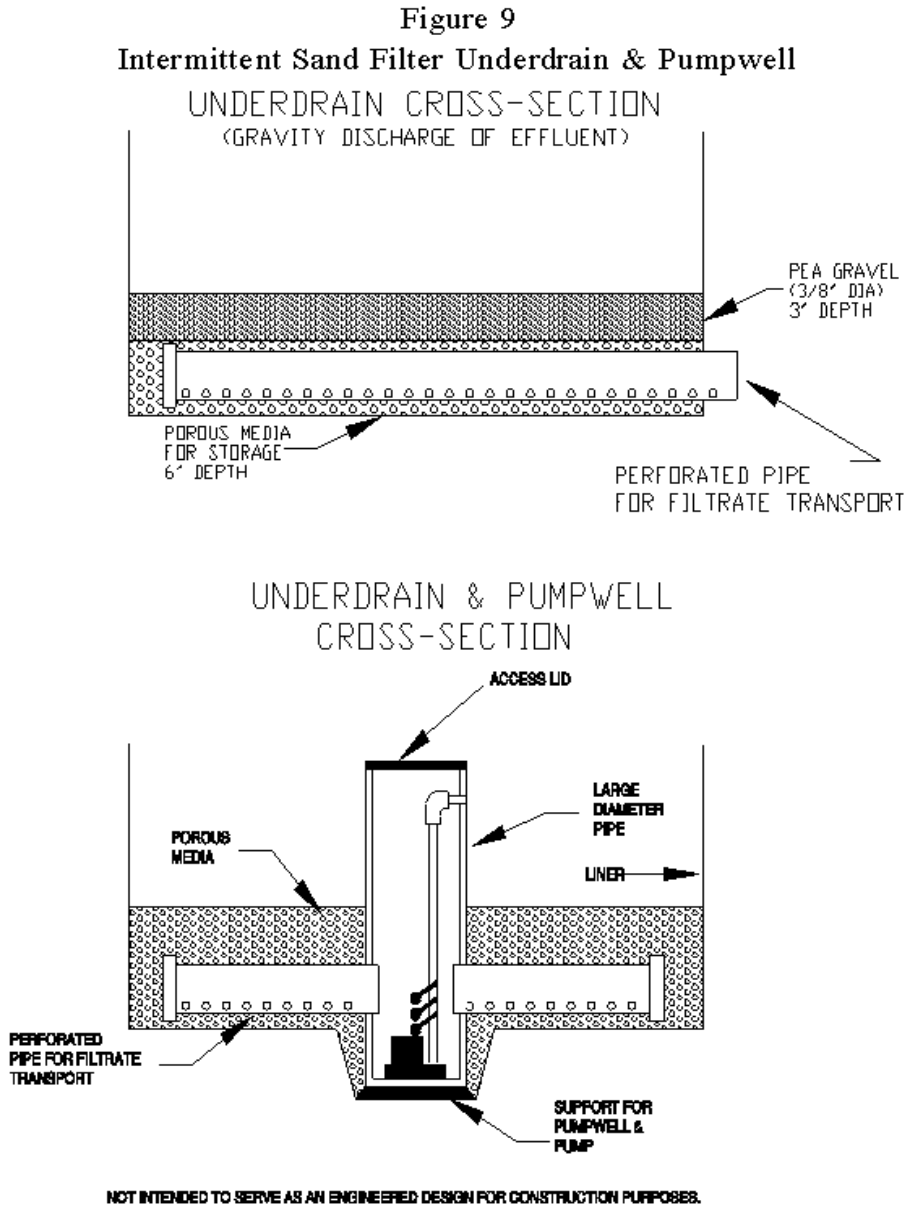


(8) Figure 8. Intermittent Sand Filters.



NOT INTENDED TO SERVE AS AN ENGINEERED DESIGN FOR CONSTRUCTION PURPOSES

(9) Figure 9. Intermittent Sand Filter Underdrain and Pumpwell.



Adopted August 20, 2008

Effective September 11, 2008

§285.91. Tables.

The following tables are necessary for the proper location, planning, construction, and installation of an OSSF.

(1) Table I. Effluent Loading Requirements Based on Soil Classification.

**TABLE I
 EFFLUENT LOADING REQUIREMENTS BASED ON SOIL CLASSIFICATION**

| SOIL CLASS (Refer to Table VI) | LONG TERM APPLICATION (R_a) *GALLONS PER ABSORPTIVE AREA (SF) PER DAY |
|-----------------------------------|------------------------------------------------------------------------------|
| Ia | >0.50 |
| Ib | 0.38 |
| II | 0.25 |
| III | 0.20 |
| IV | 0.1 |

- The absorptive area consists of the bottom area of the excavation **PLUS** one foot of sidewall area around the full perimeter of the excavation.

The required absorptive area shall be calculated by the following formula:

ABSORPTIVE AREA = Q/R_a , Where Q is the wastewater usage rate in gallons per day (see Table III, Relating to Wastewater Usage Rate).

(2) Table II. Septic Tank and Aerobic Treatment Unit Sizing.

Table II. Septic Tank and Aerobic Treatment Unit Sizing.

SEPTIC TANK MINIMUM LIQUID CAPACITY

- A. Determine the applicable wastewater usage rate (Q) in TABLE III of 30 TAC Chapter 285.
- B. Calculate the minimum septic tank volume (V) as follows:
 1. For Q equal to or less than 250 gal/day:
 $V = 750$ gallons
 2. For Q greater than or equal to 251 gal/day but less than or equal to 350 gal/day:
 $V = 1000$ gallons
 3. For Q greater than or equal to 351 gal/day but less than or equal to 500 gal/day:
 $V = 1250$ gallons
 4. For Q greater than or equal to 501 gal/day but less than or equal to 1000 gal/day:
 $V = 2.5 Q$

5. For Q greater than or equal to 1001 gal/day:
 $V = 1,750 + 0.75Q$

AEROBIC TREATMENT UNIT SIZING FOR RESIDENCES

| Number of bedrooms/living area of home | Minimum Aerobic Tank Treatment Capacity (gallons per day) |
|------------------------------------------------------|--------------------------------------------------------------|
| Three bedrooms and < 2,501 sq. ft. | 400 |
| Four bedrooms and < 3,501 sq. ft. or | 480 |
| Less than four bedrooms and 2,500 < sq. ft. < 3,501 | |
| Five bedrooms and < 4,501 sq. ft. or | 600 |
| Less than five bedrooms and 3,500 < sq. ft. < 4,501 | |
| Six bedrooms and < 5,501 sq. ft. or | 720 |
| Less than six bedrooms and 4,500 < sq. ft. < 5,501 | |
| Seven bedrooms and < 7,001 sq. ft. or | 840 |
| Less than seven bedrooms and 5,500 < sq. ft. < 7,001 | |
| Eight bedrooms and < 8,501 sq. ft. or | 960 |
| Less than eight bedrooms and 7,000 < sq. ft. < 8501 | |
| Nine bedrooms and < 10,001 sq. ft. or | 1,080 |
| Less than nine bedrooms and 8,500 < sq. ft. < 10,001 | |
| Ten bedrooms and < 11,501 sq. ft. or | 1,200 |
| Less than ten bedrooms and 10,000 < sq. ft. < 11,501 | |

For each additional bedroom above ten
 or
 1,500 additional square feet of living area above 11,500 120

(3) Table III. Wastewater Usage Rate.

Table III. Wastewater Usage Rate.

This table shall be used for estimating the hydraulic loading rates only. Sizing formulas are based on residential strength BOD₅. Commercial/institutional facilities must pretreat their wastewater to 140 BOD₅ prior to disposal unless secondary treatment quality is required. For design purposes, restaurant wastewater will be assumed to have a BOD₅ of at least 1,200 mg/l after exiting the grease trap or grease interceptor.

Actual water usage data or other methods of calculating wastewater usage rates may be used by the system designer if it is accurate and acceptable to the Texas Commission on Environmental Quality or its authorized agents. If actual water use records are greater than the usage rates in this table, the system shall be designed for the higher flow.

| TYPE OF FACILITY | USAGE RATE GALLONS/DAY (Without Water Saving Devices) | USAGE RATE GALLONS /DAY (With Water Saving Devices) |
|-----------------------------------------------------------------------------------------|----------------------------------------------------------------|--------------------------------------------------------------|
| Single family dwelling (one or two bedrooms) - less than 1,500 square feet. | 225 | 180 |
| Single family dwelling (three bedrooms) - less than 2,500 square feet. | 300 | 240 |
| Single family dwelling (four bedrooms) - less than 3,500 square feet. | 375 | 300 |
| Single family dwelling (five bedrooms) - less than 4,500 square feet. | 450 | 360 |
| Single family dwelling (six bedrooms) - less than 5,500 square feet. | 525 | 420 |
| Greater than 5,500 square feet, each additional 1,500 square feet or increment thereof. | 75 | 60 |
| Condominium or Townhouse (one or two bedrooms) | 225 | 180 |
| Condominium or Townhouse (each additional bedroom) | 75 | 60 |

| | | |
|------------------------------------------------------------------------------------|-----|-----|
| Mobile home (one or two bedrooms) | 225 | 180 |
| Mobile home (each additional bedroom) | 75 | 60 |
| Country Clubs (per member) | 25 | 20 |
| Apartment houses (per bedroom) | 125 | 100 |
| Boarding schools (per room capacity) | 50 | 40 |
| Day care centers (per child with kitchen) | 25 | 20 |
| Day care centers (per child without kitchen) | 15 | 12 |
| Factories (per person per shift) | 15 | 12 |
| Hospitals (per bed) | 200 | 160 |
| Hotels and motels (per bed) | 75 | 60 |
| Nursing homes (per bed) | 100 | 80 |
| Laundries (self service per machine) | 250 | 200 |
| Lounges (bar and tables per person) | 10 | 8 |
| Movie Theaters (per seat) | 5 | 4 |
| Office buildings (no food or showers per occupant) | 5 | 4 |
| Office buildings (with food service per occupant) | 10 | 8 |
| Parks (with bathhouse per person) | 15 | 12 |
| Parks (without bathhouse per person) | 10 | 8 |
| Restaurants – minimum effluent BOD ₅ quality described above this table | 35 | 28 |
| Restaurants (per seat) | 15 | 12 |
| Restaurants (fast food per seat) | | |
| Schools (with food service & gym per student) | 25 | 20 |
| Schools (without food service) | 15 | 12 |
| Service stations (per vehicle) | 10 | 8 |
| Stores (per washroom) | 200 | 160 |
| Swimming pool bathhouses (per person) | 10 | 8 |
| Travel trailer/RV parks (per space) | 50 | 40 |
| Vet clinics (per animal) | 10 | 8 |
| Construction sites (per worker) | 50 | 40 |
| Youth camps (per camper) | 30 | 24 |

(4) Table IV. Required Testing and Reporting.

Table IV. Required Testing and Reporting.

| Type and Size of Treatment Unit | Testing Frequency | Required Tests | Minimum Acceptable Test Results |
|--------------------------------------------------------------|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Any Treatment Method in Conjunction with Surface Application | At least once every four months | One BOD ₅ and TSS Grab Sample Per Year (non-single family residences only) Total Chlorine Residual or Fecal Coliform at Each Required Test | BOD ₅ and TSS Grab Samples Not To Exceed 65 mg/l 0.1 mg/l Residual in Pump Tank or Fecal Coliform Not To Exceed 200 MPN/100 ml (CFU/100 ml) |
| Any Secondary Treatment System | At least once every four months | None | None |
| Non Standard | Permit Specific | Permit Specific | Permit Specific |

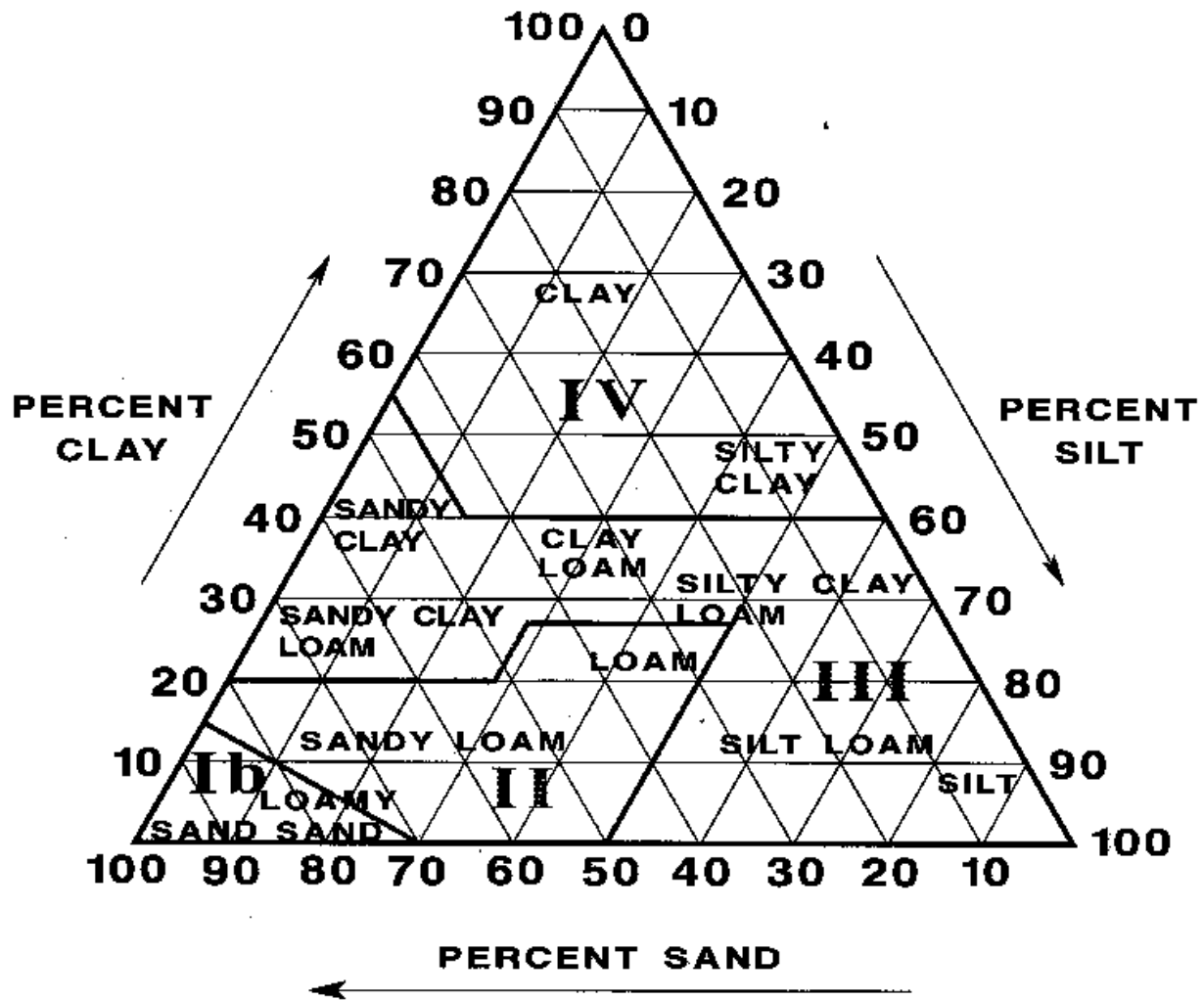
(5) Table V. Criteria for Standard Subsurface Absorption Systems.

Table V. Criteria for Standard Subsurface Absorption Systems.

| FACTORS | SUITABLE (S) | UNSUITABLE (U) |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Topography | Slopes 0-30% | Slopes greater than 30% Complex slopes |
| Subsoil Texture | Soil Class Ib, II, or III soils along the sidewall and two feet below the bottom of the excavation | Soil Class Ia soils along the sidewall or within two feet below the bottom of the excavation (Except for lined ET) Soil Class IV along the sidewall or within two feet below the bottom of the excavation (Except for pumped effluent and ET) |
| Restrictive Horizon | No restrictive horizon intersects the sidewall or is within 24 inches below the bottom of the proposed excavation. | A restrictive horizon intersects the sidewall or is within 24 inches below the bottom of the proposed excavation (Except as indicated in §285.33(b)(1)(A)(vi)) |
| Gravel analysis | In Class II or III soils, only; Gravel portion less than 30% and gravel greater than 2.0 mm; or If greater than 30% gravel, 80% of the gravel portion must be less than 5.0 mm | All other Class II and III soils, which contain gravel in excess of what is described as suitable All other soils with greater than 30% gravel |

| | | |
|--------------|-----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Groundwater | No indication of seasonal groundwater anywhere within 24 inches of the bottom of the proposed excavation. | Indications of seasonal groundwater or drainage mottles anywhere within 24 inches of the bottom of the proposed excavation (Except for lined ET) |
| Flood Hazard | No flooding potential. | Areas located in the floodplain and regulatory floodway unless system designed according to §285.31(c)(2) Depressional areas without adequate drainage |
| Other | | Fill material |

(6) Table VI. USDA Soil Textural Classifications.



SOIL PARTICLE SIZE:

- Clay - Smaller than 0.002 mm in diameter
 - Silt - 0.05 to 0.002 mm in diameter
 - Sand - 2.0 to 0.05 mm in diameter
 - Gravel - Greater than 2.0 mm in diameter
- mm = millimeter*

Note 1: Sand shall be free of organic matter and shall be composed of silica, quartz, mica, or any other stable mineral.

Note 2: Class Ia soils contain more than 30% gravel; therefore, they are not portrayed on the soil triangle.

(7) Table VII. Yearly Average Net Evaporation (Evaporation-Rainfall).

TABLE VII
 ANNUAL AVERAGE NET EVAPORATION
 (EVAPORATION - RAINFALL)

| REPORTING STATION | NET EVAPORATION*, RET INCHES/DAY |
|-------------------|-------------------------------------|
| Amarillo | 0.21 |
| Austin | 0.14 |
| Beaumont | 0.04 |
| Big Spring | 0.24 |
| Brownsville | 0.15 |
| Chilicothe | 0.20 |
| Canyon Lake | 0.15 |
| College Station | 0.12 |
| Corpus Christi | 0.15 |
| Daingerfield | 0.08 |
| Dallas | 0.14 |
| El Paso | 0.26 |
| Fort Stockton | 0.25 |
| Houston | 0.07 |
| Laredo | 0.23 |
| Lubbock | 0.21 |
| Nacogdoches | 0.06 |
| San Antonio | 0.15 |
| San Angelo | 0.23 |
| Temple | 0.15 |
| Throckmorton | 0.19 |
| Tyler | 0.08 |

* The calculations for all values listed include a 20% run-off consideration

(8) Table VIII. OSSF Excavation Length (3 Feet in Width or Less).

Table VIII. OSSF Excavation Length (3 Feet in Width or Less)

| Daily Sewage Flow (Q) ² | Excavation Length (Feet) | | | | | | | | |
|------------------------------------|--------------------------------------------|-------------------------------|-------------------------------|--------------------------------------------|-------------------------------|-------------------------------|--------------------------------------------|-------------------------------|-------------------------------|
| | Soil Class Ib | | | Soil Class II | | | Soil Class III | | |
| | For 1.5 Foot Excavation Width ³ | For 2.0 Foot Excavation Width | For 3.0 Foot Excavation Width | For 1.5 Foot Excavation Width ³ | For 2.0 Foot Excavation Width | For 3.0 Foot Excavation Width | For 1.5 Foot Excavation Width ³ | For 2.0 Foot Excavation Width | For 3.0 Foot Excavation Width |
| 100 | 75 | 66 | 53 | 114 | 100 | 80 | 143 | 125 | 100 |
| 125 | 94 | 82 | 66 | 143 | 125 | 100 | 179 | 156 | 125 |
| 150 | 113 | 99 | 79 | 171 | 150 | 120 | 214 | 188 | 150 |
| 180 | 135 | 118 | 95 | 206 | 180 | 144 | 257 | 225 | 180 |
| 200 | 150 | 132 | 105 | 229 | 200 | 160 | 286 | 250 | 200 |
| 225 | 169 | 148 | 118 | 257 | 225 | 180 | 321 | 281 | 225 |
| 240 | 180 | 158 | 126 | 274 | 240 | 192 | 343 | 300 | 240 |
| 275 | 207 | 181 | 145 | 314 | 275 | 220 | 393 | 344 | 275 |
| 300 | 226 | 197 | 158 | 343 | 300 | 240 | 429 | 375 | 300 |
| 325 | 244 | 214 | 171 | 371 | 325 | 260 | 464 | 406 | 325 |
| 360 | 271 | 237 | 189 | 411 | 360 | 288 | 514 | 450 | 360 |
| 375 | 282 | 247 | 197 | 429 | 375 | 300 | 536 | 469 | 375 |
| 400 | 301 | 263 | 211 | 457 | 400 | 320 | 571 | 500 | 400 |
| 420 | 316 | 276 | 221 | 480 | 420 | 336 | 600 | 525 | 420 |
| 450 | 338 | 296 | 237 | 514 | 450 | 360 | 643 | 563 | 450 |
| 475 | 357 | 313 | 250 | 543 | 475 | 380 | 679 | 594 | 475 |
| 500 | 376 | 329 | 263 | 571 | 500 | 400 | 714 | 625 | 500 |

1. To determine excavation lengths, greater than 3 feet in width or where the area and width are known, use the formulas provided in §285.33(b)(1)(A)(vii).
2. To determine excavation lengths (3 feet or less in width, but greater than or equal to 1.5 feet in width) for daily sewage flows (Q) not provided in this table, use the formula provided in §285.33(b)(1)(A)(vii)(III).
3. Minimum excavation width is 1.5 feet for all excavation lengths.

(9) Table IX. OSSF System Designation.

Table IX. OSSF System Designation.

| SYSTEM DESCRIPTION | SYSTEM TYPE | PLANNING MATERIAL TO BE PREPARED BY R.S. or P.E. ² | INSTALLER REQUIREMENTS |
|----------------------------------------------------------------|--------------|---------------------------------------------------------------|------------------------|
| Septic Tank & Absorptive Drainfield | Standard | No | Class I or II |
| Septic Tank & ET Drainfield (Unlined) | Standard | No | Class I or II |
| Septic Tank & ET Drainfield (Lined) | Standard | No | Class II |
| Septic Tank & Pumped Drainfield | Standard | No | Class I or II |
| Septic Tank & Leaching Chamber | Proprietary | No | Class I or II |
| Septic Tank & Gravelless Pipe | Proprietary | No | Class I or II |
| Septic Tank & Low Pressure Dosing | Non-standard | Yes | Class II |
| Septic Tank & Absorptive Mounds | Non-standard | Yes | Class II |
| Septic Tank & Soil Substitution | Non-standard | Yes | Class I or II |
| Septic Tank, Secondary Treatment, Filter & Surface Application | Non-standard | Yes | Class II |
| Aerobic Treatment & Standard Absorptive Drainfields | Proprietary | Yes | Class II |

| | | | |
|----------------------------------------------------------|--------------|---------------|---------------|
| Aerobic Treatment & ET Drainfield | Proprietary | Yes | Class II |
| Aerobic Treatment & Leaching Chamber | Proprietary | Yes | Class II |
| Aerobic Treatment & Gravelless Pipe | Proprietary | Yes | Class II |
| Aerobic Treatment, Filter & Drip Emitter | Proprietary | Yes | Class II |
| Aerobic Treatment & Low Pressure Dosing | Proprietary | Yes | Class II |
| Aerobic Treatment & Absorptive Mounds | Proprietary | Yes | Class II |
| Aerobic Treatment & Surface Application | Proprietary | Yes | Class II |
| Any Other Treatment System | --- | Yes | Class II |
| Any Other Subsurface Disposal System | --- | (1) | (1) |
| Any Other Surface Disposal System | --- | Yes | Class II |
| Non-Standard Treatment when Secondary Treatment Required | Non-Standard | Engineer Only | Class II |
| Holding Tank | --- | No | Class I or II |

(1) Determined by the executive director based upon review required by §285.5(b)(2) of this Chapter (relating to submittal requirements for planning materials).

(2) The site evaluation is required to be performed by either a site evaluator or a professional engineer.

(10) Table X. Minimum Required Separation Distances for On-Site Sewage Facilities.

Table X. Minimum Required Separation Distances for On-Site Sewage Facilities.

| | TO | | | | | |
|----------------------------------------------------------------------------------------------------------------------------|-----------|------------------------------------------------------------|-------------------------------|---------------------------------------------------|------------------------------------------|----------------------------------------------------------------------------------------------|
| FROM | Tanks | Soil Absorption Systems, & Unlined ET Beds | Lined Evapotranspiration Beds | Sewer Pipe With Watertight Joints | Surface Application (Edge of Spray Area) | Drip Irrigation |
| Public Water Wells ² | 50 | 150 | 150 | 50 | 150 | 150 |
| Public Water Supply Lines ² | 10 | 10 | 10 | 10 | 10 | 10 |
| Wells and Underground Cisterns | 50 | 100 | 50 | 20 | 100 | 100 |
| Private Water Line | 10 | 10 | 5 | 10 ⁵ except at connection to structure | No separation distances | 10 |
| Wells Completed in accordance with 16 TAC §76.1000(a)(1) | 50 | 50 | 50 | 20 | 50 | 50 |
| Streams, Ponds, Lakes, Rivers, Creeks (Measured From Normal Pool Elevation and Water Level); Salt Water Bodies (High Tide) | 50 | 75 LPD with secondary treatment & disinfection - 50 | 50 | 20 | 50 | 25 when $R_a < 0.1$ 75 when $R_a > 0.1$ (With Secondary Treatment & Disinfection - 50) |

| | | | | | | |
|----------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| Only); Retention Ponds/Basin (Spillway elevation) | | | | | | |
| Foundations, Buildings, Surface Improvements, Property Lines, Swimming Pools, and Other Structures | 5 | 5 | 5 | 5 Pipe may run beneath driveways and sidewalks or up to surface improvements if sleeved in Schedule 40 pipe Pipe containing secondary effluent has no setbacks from building foundations | No Separation Distances Except: Property lines - 20 ⁶ Swimming Pools - 25 | No Separation Distances Except ⁴ : Property Lines - 5 |
| Underground Easements | 1 | 1 | 1 | 1 | May spray to edge of easement, but not into. Sprinkler heads must be 1 feet from easement edge | 1 |
| Overhead Easements | 1 No setbacks if permission is granted by easement holder | 1 No setbacks if permission is granted by easement holder | 1 No setbacks if permission is granted by easement holder | 1 No setbacks if permission is granted by easement holder | 1 No setbacks if permission is granted by easement | 1 No setbacks if permission is granted by easement |

| | | | | | | |
|------------------------------------------------------------------------------------------------------------|----|-----|----|----|--------|----------------------------------------------|
| | | | | | holder | holder |
| Slopes Where Seeps may Occur, drainage easements and detention ponds | 5 | 25 | 5 | 10 | 10 | 10 when $R_a < 0.1$ 25 when $R_a > 0.1$ |
| Edwards Aquifer Recharge Features (See Chapter 213 of this title relating to Edwards Aquifer) ³ | 50 | 150 | 50 | 50 | 150 | 100 when $R_a < 0.1$ 150 when $R_a > 0.1$ |

1. All distances measured in feet, unless otherwise indicated.
2. For additional information or revisions to these separation distances, see Chapter 290 of this title (relating to Public Drinking Water).
3. No OSSF may be installed closer than 75 feet from the banks of the Nueces, Dry Frio, Frio, or Sabinal Rivers downstream from the northern Uvalde County line to the recharge zone.
4. Drip irrigation lines may not be placed under foundations.
5. Private water line/wastewater line crossings should be treated as public water line crossings, see Chapter 290 of this title (relating to Public Drinking Water).
6. Separation distance may be reduced to 10 feet when sprinkler operation is controlled by commercial timer. See §285.33(d)(2)(G)(i).

(11) Table XI. Intermittent Sand Filter Media Specifications (ASTM C-33).

**TABLE XI INTERMITTENT SAND FILTER MEDIA SPECIFICATIONS
 (ASTM C-33)**

| Particle Size Distribution | | |
|-----------------------------------|---------------|-----------------|
| Sieve | Particle Size | Percent Passing |
| 3/8 inch | 9.50 mm | 100 |
| No. 4 | 4.75 mm | 95 to 100 |
| No. 8 | 2.36 mm | 80 to 100 |
| No. 16 | 1.18 mm | 50 to 85 |
| No. 30 | 0.60 mm | 25 to 60 |
| No. 50 | 0.30 mm | 10 to 30 |
| No. 100 | 0.15 mm | 2 to 10 |
| No. 200 | 0.075 mm | 3 |

1. The sand shall have not more than 45% passing any one sieve and retained on the next consecutive sieve listed in TABLE XI.
2. The limit for material that can pass the No. 200 sieve shall not be more than 3%.

The fineness modulus shall not be less than 2.3 nor more than 3.1, and is defined as a numeric quantity to control the distribution of filter media particle sizes within the specified range for intermittent sand filters. The fineness modulus is calculated by adding the cumulative percents of samples retained on the following screens, dividing the sum by 100.

3.

| U.S. Bureau of Standards | |
|--------------------------|---------------|
| Sieve | Particle Size |
| 3/8 inch | 9.50 mm |
| No. 4 | 4.75 mm |
| No. 8 | 2.36 mm |
| No. 16 | 1.18 mm |
| No. 30 | 0.60 mm |
| No. 50 | 0.30 mm |
| No. 100 | 0.15 mm |

(12) Table XII. OSSF Maintenance Contracts, Affidavit, and Testing/Reporting Requirements.

Table XII. OSSF Maintenance Contracts, Affidavit, and Testing/Reporting Requirements.

| SYSTEM DESCRIPTION | Maintenance /Affidavit Required | Maintenance Activities Required | Testing and Reporting Requirements ^{2,4} |
|----------------------------------------------------------------|---------------------------------|---------------------------------|---------------------------------------------------|
| Septic Tank & Absorptive Drainfield | No | See §285.39 | No |
| Septic Tank & ET Drainfield (Unlined) | No (3) | See §285.39 | No |
| Septic Tank & ET Drainfield (Lined) | No (3) | See §285.39 | No |
| Septic Tank & Pumped Drainfield | No | See §285.39 | No |
| Septic Tank & Leaching Chamber | No | See §285.39 | No |
| Septic Tank & Gravelless Pipe | No | See §285.39 | No |
| Septic Tank & Low Pressure Dosing | No | See §285.39 | No |
| Septic Tank & Absorptive Mounds | No | See §285.39 | No |
| Septic Tank & Soil Substitution | No | See §285.39 | No |
| Septic Tank, Secondary Treatment, Filter & Surface Application | Yes | Entire OSSF | Test & Report |
| Secondary Treatment & Standard Absorptive Drainfields | Yes | Treatment System | Report |
| Secondary Treatment & ET Drainfield | Yes | Treatment System | Report |
| Secondary Treatment & Leaching Chamber | Yes | Treatment System | Report |
| Secondary Treatment & Gravelless Pipe | Yes | Treatment System | Report |
| Secondary Treatment, Filter & Drip Emitter | Yes | Entire OSSF | Report |
| Secondary Treatment & Low Pressure Dosing | Yes | Treatment System | Report |

| | | | |
|------------------------------------------------|-----|---------------------|------------------------|
| Secondary Treatment & Absorptive Mounds | Yes | Treatment System | Report |
| Secondary Treatment & Surface Application | Yes | Entire OSSF | Test and Report |
| Any Other Treatment System | (1) | (1) | (1) |
| Any Other Subsurface Disposal System | (1) | (1) | (1) |
| Any Other Surface Disposal System | Yes | (1) | (1) |
| Non-Standard Treatment and Surface Application | Yes | Entire OSSF | Test and Report (1) |
| Holding Tank | Yes | Pump tank as needed | Keep pump records |

(1) Determined by the permitting authority based upon review required by §285.5(b) of this title (relating to Submittal Requirements for Planning Materials).

(2) Requirements for Planning Materials). Testing criteria and reporting frequency for those systems not covered under (1) shall be according to §285.91(4) of this title.

(3) Required if design Q is less than required by §285.91(3) of this title.

(4) Not required if the homeowner maintains the system.

(13) Table XIII. Disposal and Treatment Selection Criteria.

TABLE XIII: DISPOSAL AND TREATMENT SELECTION CRITERIA

| ON-SITE SEWAGE FACILITY ⁽⁹⁾ (OSSF) | SOIL TEXTURE OR FRACTURED ROCK ⁽¹⁰⁾ (MOST RESTRICTIVE CLASS ALONG MEDIA ⁽¹⁾ or 2 FEET BELOW EXCAVATION) | | | | MINIMUM DEPTH TO GROUNDWATER | MINIMUM DEPTH TO RESTRICTIVE HORIZON ⁽¹⁾ | |
|----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|----------|---------------------------------------------------|------------------|------------------------------|-----------------------------------------------------|----------------|
| | Disposal Method (section) Treatment | Class Ia | Class Ib, II ⁽⁸⁾ or III ⁽⁸⁾ | Class IV | | | Fractured Rock |
| Absorptive drainfield ⁽²⁾ (285.33(b)(1))Septic tank | U | S | U | U | U | 2 feet | 2 feet |
| Absorptive drainfield ⁽²⁾ Secondary treatment | S ⁽⁵⁾ | S | U | S ⁽⁵⁾ | S ⁽⁵⁾ | 2 feet | 2 feet |
| Lined E-T ⁽²⁾ Septic tank | S | S | S | S | S | N/A | N/A |
| Lined E-T ⁽²⁾ Secondary treatment | S | S | S | S | S | N/A | N/A |
| Unlined E-T ⁽²⁾ Septic tank | U | S | S | U | U | 2 feet | 2 feet |

| | | | | | | |
|-------------------------------------------------------------|------------------|------------------|------------------|------------------|--------|----------|
| Unlined E-T ⁽²⁾ Secondary treatment | S ⁽⁵⁾ | S | S | S ⁽⁵⁾ | 2 feet | 2 feet |
| Pumped Effluent Drainfield ⁽³⁾ Septic tank | U | S | S | U | 2 feet | 1 foot |
| Leaching chamber ⁽²⁾ Septic tank | U | S | U | U | 2 feet | 2 feet |
| Leaching chamber ⁽²⁾ Secondary treatment | S ⁽⁵⁾ | S | U | S ⁽⁵⁾ | 2 feet | 2 feet |
| Gravelless pipe ⁽²⁾ Septic tank | U | S | U | U | 2 feet | 2 feet |
| Gravelless pipe ⁽²⁾ Secondary treatment | S ⁽⁵⁾ | S | U | S ⁽⁵⁾ | 2 feet | 2 feet |
| Drip Irrigation Septic tank/ filter | U | S | S | U | 2 feet | 1 foot |
| Drip Irrigation Secondary treatment/ filter | S ⁽⁵⁾ | S | S | S ⁽⁵⁾ | 1 foot | 6 inches |
| Low Pressure Dosing Septic tank | U | S | S | U | 2 feet | 1 foot |
| Low Pressure Dosing Secondary treatment | S ⁽⁵⁾ | S | S | S ⁽⁵⁾ | 2 feet | 1 foot |
| Mound ⁽⁴⁾ Septic tank | S | S | S | S | 2 feet | 1.5 feet |
| Mound ⁽⁴⁾ Secondary treatment | S | S | S | S | 2 feet | 1.5 feet |
| Surface application Secondary treatment | S ⁽⁶⁾ | S ⁽⁶⁾ | S ⁽⁶⁾ | S ⁽⁶⁾ | N/A | N/A |
| Surface application Non-standard treatment | S ⁽⁶⁾ | S ⁽⁶⁾ | S ⁽⁶⁾ | S ⁽⁶⁾ | N/A | N/A |
| Soil Substitution ⁽²⁾ Septic tank | S | S | U | S | 2 feet | 2 feet |
| Soil Substitution ⁽²⁾ Secondary Treatment | S | S | U | S | 2 feet | 2 feet |

S = Suitable U = Unsuitable

(1) An absorptive drainfield may be used, if a rock horizon is at least 6 inches above the bottom of the excavation, see §285.33(b)(1).

(2) If the slope in the drainfield area is greater than 30% or is complex, the area is unsuitable for the disposal method.

(3) Can only be installed in an area where the slope is less than or equal to 2.0%.

(4) Can only be installed in an area where the slope is less than 10%.

- (5) Requires disinfection before disposal. A form of pressure distribution shall be used for effluent disposal in fractured or fissured rock.
 - (6) Requires vegetation cover and disinfection.
 - (7) When no media exists, measure from the bottom of the excavation or pipe, whichever is less.
 - (8) May require gravel analysis for further suitability analysis (see §285.30(b)(1)(B)).
 - (9) If OSSF is located within a Flood Hazard, see §285.31(c)(2) for special planning requirements.
 - (10) Includes fissured rock.
- All OSSFs require surface drainage controls if slope is less than 2%.

Adopted August 20, 2008

Effective September 11, 2008