

<p>DESIGN INSTRUCTIONS and WORKSHEETS for a <u>LESS than 2000 Gallons Per Day</u> <u>GRAVITY SEPTIC SYSTEM</u> utilizing a LEACHFIELD</p>	<p><u>For Office Use Only</u></p>
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A. General Information.

1. Name of Facility: _____
2. Location: County _____
1/4 Section _____, Section _____, Township _____N, Range _____W
3. Subdivision or Tract: a) Name _____ *
- b) Lot # _____, c) Block # _____, d) Date Platted or Approved _____ *
- e) Attach legal description of property (from Sales Contract or Deed)
4. Is the proposed facility in compliance with a county approved subdivision or plat? Yes _____, No _____. *
5. Is the proposed facility located within an area covered by an approved water quality management plan? Yes _____, No _____. *
(if No - skip to 7.)
6. a. Is the proposed facility consistent with an approved water quality management plan? Yes _____, No _____. *
(if Yes - skip to 7.)
- b. If not, has a temporary exemption been approved? Yes _____, No _____. *
7. Is the proposed facility in conflict with an approved well-head protection program or source water protection program? Yes _____, No _____. *

* Note: Your local county planning office or the appropriate DEQ District Office for your county can assist you with information relating to items 3, 4, 5, 6, and 7.

B. Site Information.

1. Lot Size: _____ ft. by _____ ft., Area: _____sf, or _____ acres

2. Water Supply: _____ community, or _____ private well

3. Ground Slope (at location of leachfield): _____ ft./ 100 ft., or _____ %

4. Soil Description: _____

5. Percolation Rate in minutes per inch (mpi) as determined from *Percolation Test Procedure attachment*. (The actual percolation test data must be submitted with the application)

a. **If 3 to 5 holes were tested**, the slowest rate (largest number) was _____mpi

b. **If 6 or more holes were tested**, the average percolation rate was _____mpi

c. **If the percolation rate is less than 1 mpi or greater than 60 mpi**, this site is unsuitable for a typical leachfield. Please contact the nearest DEQ district office or your local small wastewater program administrator for assistance.

6. The seasonally high groundwater level is _____ feet below the ground surface.

How and where was this determined?

Who determined this? _____, Date _____

7. The depth to bedrock or an impermeable soil layer (perk rate greater than 60 mpi) is _____ feet below the ground surface. (If the depth to bedrock is greater than 12 feet, the exact depth is not necessary - answer: more than 12 ft.)

How was this determined?

Who determined this and qualifications? _____

8. Complete the blank *Site Plan detail sheet* included herein.

C. Septic Tank Information.

1. Tank size: _____ gallons, 1 compartment_____, or 2 compartment_____
2. Manufacturer: _____, Model _____
3. Supplier: _____, Phone # _____
4. *Standard Septic Tank detail sheet* must be completed.

D. Absorption system (leachfield) size calculations.

1. Design wastewater volume (circle a, b, or c - and complete that section):
 - a. Permanent Structure: 150 gpd/bedroom x _____ bedrooms = _____gpd
 - b. Mobile home: 1 or 2 bdrms = 350, 3 bdrms = 500, 4 bdrms = 650gpd (circle one)
 - c. Non-residential design loads (show calculations as appropriate)

2. The absorption system loading rate is: **0.**_____ gpd/sf.

(The loading rate is determined from your percolation rate and the "Loading Rate Table", Appendix PT, in the *Percolation Test Procedure attachment*)

3. The minimum required infiltrative surface area is calculated as follows:

$$\frac{\text{Wastewater volume (D.1.)}}{\text{Loading rate (D.2.)}} = \frac{\text{gpd}}{\text{gpd/sf}} = \text{_____ sf}$$

E. Absorption system layout (Leachfield):

1. Type of system: (check one)

Rock and perforated pipe **Trench** _____ complete part E.2.

Rock and perforated pipe **Bed** _____ complete part E.3.

Chamber Trench system _____ complete part E.4.

Chamber Bed system _____ complete part E.5.

2. Trench Design for Washed Rock and Perforated Pipe: (Distinct trenches with at least 3 feet of undisturbed soil between trenches)

a. Minimum infiltrative surface area required = _____ sf from D.3.

Choose your trench dimensions:

b. Total depth = _____ inches

c. Width = _____ inches

d. Depth below bottom of pipe = _____ inches (6" minimum)

Calculate minimum length of trench needed:

e. Square feet per linear foot =

(side [E.2.d.] + bottom [E.2.c.] + side [E.2.d.]) / 12 = _____ sf / foot

f. Total minimum trench length = E.2.a. / E.2.e. = _____ linear feet

g. Trench layout Depending on the total minimum trench length required (E.2.f.);
- (check one) choose one of the following:

_____ 1 single trench see *Single Trench Pipe Leachfield detail sheet*

_____ 2 trenches see *Two Trench Pipe Leachfield detail sheet*

_____ 4 trenches see *Four Trench Pipe Leachfield detail sheet*

_____ Multiple trenches see *Multiple Trench Pipe Leachfield detail sheet*
(requires "D" Box)

3. Bed Design for Washed Rock and Perforated Pipe: (one continuous excavation - no distinct trenches)

a. Minimum infiltrative surface area required = _____ sf from D.3.

Choose your bed dimensions (must always be more than the minimum area required.)

b. Width _____ ft. Length _____ ft. = Total square feet _____ sf.

c. Bed layout: Complete *Bed Type Pipe Leachfield detail sheet*

4. Trench Design for Chamber Leachfield Systems: (Distinct trenches with at least 3 feet of undisturbed soil between trenches)
- Minimum infiltrative surface area required = _____ sf from D.3.
 - Choose your make and model of leachfield Chamber:
 Manufacturer _____, Model _____
 Width _____ inches, Height _____ inches, Length _____ feet & inches
 - Equivalent area per unit = _____ (See *Chamber Systems Attachment*)
 - Minimum number of units required is:
 (Minimum area [E.4.a.] / Equivalent unit area [E.4.c.]) =
 (_____ / _____) = _____ units [round up]
 - Number of units to be used = _____ (same or more than E.4.d.)
 - Trench layout - Depending on the number of units to be used, choose one of the following:

_____	1 single trench	see <i>Single Trench Chambered Leachfield detail sheet</i>
_____	2 trenches	see <i>Two Trench Chambered Leachfield detail sheet</i>
_____	4 trenches	see <i>Four Trench Chambered Leachfield detail sheet</i>
_____	Multiple trenches (requires "D" Box)	see <i>Multiple Trench Chambered Leachfield detail sheet</i>
5. Bed Design for Chamber Leachfield Systems: (one continuous excavation - no distinct trenches)
- Minimum infiltrative surface area required = _____ sf from D.3.
 - Choose your make and model of leachfield Chamber:
 Manufacturer _____, Model _____
 Width _____ inches, Height _____ inches, Length _____ feet & inches
 - Equivalent bed area per unit = _____ (See *Chamber Systems Attachment*)
 - Minimum number of units required is:
 (Minimum area [E.5.a.] / Equivalent unit area [E.5.c.]) =
 (_____ / _____) = _____ units [round up]
 - Number of units to be used = _____ (same or more than E.5.d.)
 - Bed layout: Complete *Bed Type Chambered Leachfield detail sheet*

F. Site Plan and detail sheets:

A site plan sheet (site sketch) of your property showing the septic system and leachfield layout along with detail sheets which are appropriate for your specific system must be completed and submitted with these worksheets. Sheets which do not apply to your system need not be submitted. Empty boxes will appear throughout the plan and detail sheets. These boxes require that you fill in information and/or dimensions that apply to your specific design. Much, but not all, of this information can be obtained from the blanks you have just filled out throughout the worksheets. Please select and complete the appropriate sheets for your system.

G. Installer Information:

Agent or Contractor's Name: _____

Business Name (if applicable): _____

Mailing Address: _____

Phone number: _____

H. General Comments:

Such as unusual site conditions or physical limitations, special requests, or any other pertinent information not previously explained in the worksheets.
