Septic System Permit Application

This standard application is for conventional systems (septic tank & leachfield) only. To use, your system must meet all of the following criteria:

- wastewater flow of less than 2,000 gallons per day of waste containing domestic sewage
- standard trench or bed type disposal systems, using either stone and pipe or chambers
- seasonal high groundwater, bedrock, or impervious clay layers must be four feet or more below the bottom of the proposed leachfield
- soil percolation rates must be ≥ 5 minutes per inch (mpi) and ≤ 60 mpi

If your system does not meet all of these requirements, a non-conventional system may be required. Since these types are more difficult to design and construct, please contact Sheridan County Public Works to proceed. For systems exceeding 2,000 gallons per day or for wastewater that is not entirely domestic waste, contact the Underground Injection Control (UIC) Program at 307-777-5623 or refer to: http://deq.wyoming.gov/wqd/undergroundinjection-control/.

PRIOR TO SUBMITTING APPLICATION TO SHERIDAN COUNTY PUBLIC WORKS

1) **Ground water test pit** – Must be inspected by a representative of Sheridan County. Pit dug in soil 4' deeper than the bottom of the proposed leachfield. Must be open at least 24 hours prior to inspection.
2) **Percolation test** – Follow instructions outlined within.
3) **Septic permit fee** – $250; due upon submission. If started prior to approval, a fine will be levied.
4) **Proof of ownership -** Recorded copy of deed must be provided. Applicant must be legal owner of the property or have notarized authorization from owner.

PRIOR TO BACKFILLING OF SYSTEM - 24-Hour Notice Required for Inspections

To ensure compliance with State/County Rules & Regulations applicant must request and pass a final inspection by a Sheridan County Rep. If applicant does not get a final inspection, the following could result (1) Exposing of the system to show compliance (2) Revocation of the permit (3) Legal action.

Where can I get questions answered?

Rules and Regulations Governing Wastewater Systems – www.sheridancounty.com/depts/public-works/
Sheridan County Public Works, 224 South Main St., Ste. 428, Sheridan, WY 82801, Ph: (307) 674-2920

Other sources of information include the Department of Environmental Quality at (307) 673-9337 and the Sheridan County Conservation District at (307) 672-5820.

If you complete the required pages using these design forms, prepared by WY DEQ, Water Quality Division, your application should comply with minimum requirements of WQRR, Chapter 25.

Contents

SHERIDAN COUNTY CONSERVATION DISTRICT

SHERIDAN COUNTY CONSERVATION DISTRICT
1949 SUGARLAND DRIVE, SUITE 102, SHERIDAN, WYOMING 82801
(307) 672-5820 ext. 3 www.sccdwy.org

Protecting Sheridan County's Water and Land Quality through Assistance Programs, Information and Outreach, Monitoring, and Planning

FINANCIAL ASSISTANCE FOR SEPTIC SYSTEM REPLACEMENT

SCCD can provide up to 50% cost-share assistance for the replacement of septic systems that have the potential to impact water quality. *

Funding comes from state and federal grants provided by the Wyoming Department of Agriculture and the US Environmental Protection Agency through the Wyoming Department of Environmental Quality. The grants have specific eligibility criteria that SCCD is required to follow. Please complete the following information to determine whether your system replacement may be eligible for funding.

SECTION 1. BASIC PROGRAM ELIGIBILITY		
a) Was the existing system installed prior to July 1, 1973?	**YES**	**NO**
b) Does the system service a single-family dwelling only?	**YES**	**NO**
c) Does the system impact one of the eligible "impaired" waterbodies (below)?	**YES**	**NO**
If you answered NO to any of the questions in section 1, your system is not eligible for funding assistance through the SCCD. If you answered YES to ALL questions in section 1, please proceed to section 2.		
SECTION 2. WATER QUALITY IMPACT PRIORITY		
a) Does the system discharge directly (i.e. straight pipe) into one of the listed waterbodies (see below) or into a perennial tributary or ditch that flows into one of the listed waterbodies?	**YES**	**NO**
b) Does wastewater from the system **surface** within 500 feet of one of the listed waterbodies (see below), or from a perennial tributary, or ditch that flows into one of the listed waterbodies?	**YES**	**NO**
c) If groundwater seepage from a system is suspected, is it within 50 feet of a listed waterbody (see below)?	**YES**	**NO**
If you answered YES to any one of the above questions in Section 2, you may qualify for funding assistance. Please contact the Sheridan County Conservation District for a site evaluation.		

Eligible Sheridan County waterbodies listed as "impaired" for bacteria by the State of Wyoming

Beaver Creek	Kruse Creek	Rapid Creek
Big Goose Creek	Little Goose Creek	Sackett Creek
Columbus Creek	Little Tongue River	Smith Creek
Dutch Creek	Meade Creek	Soldier Creek
Five Mile Creek	McCormick Creek	Tongue River
Goose Creek	Park Creek	Wildcat Creek
Jackson Creek	Prairie Dog Creek	Wolf Creek

*SCCD also offers assistance to address other potential water quality impacts, such as livestock. Typical practices include relocating corrals or feed grounds, fencing stream corridors and water gaps, and off-channel stockwater.

FOR MORE INFORMATION PLEASE CONTACT
THE SHERIDAN COUNTY CONSERVATION DISTRICT
307-672-5820 EXT. 3 | WWW.SCCDWY.ORG

Susan Holmes	Edith Heyward	Orrin Connell	Emerson Scott, III	Doug Masters
Chair	Vice-Chair	Secretary/Treasurer	Supervisor	Supervisor

The Sheridan County Conservation District is an Equal Opportunity Employer/Provider

Sheridan County Small Wastewater Application Form

For Permit to Construct Conventional Small Wastewater System ONLY for facilities treating less than 2,000 gallons per day.

Not to be used for evaporation ponds or other non-conventional systems. For non-conventional systems, contact Sheridan County Public Works. For systems exceeding 2,000 gallons per day, contact the Underground Injection Control Program at 307-777-5623 or refer to: http://deq.wyoming.gov/wqd/underground-injection-control/

Complete entire package and submit to: Sheridan County Public Works
224 S. Main Street, Suite 428, Sheridan, WY 82801
Fee $250; Additional fee levied if system construction starts prior to permit approval.

COUNTY USE ONLY	
Permit Number	
Date Received	
Date Approved	
Finalized Date Inspected	
Finalized Inspected by	

Name of Project:_____

Type of Building:_____
(single family dwelling, mobile home, commercial, etc.)

☐ New System County Zoning or Building Permit #_____

☐ Replacement system If so, what are you replacing?_____

Site Address:_____

Does the County approved plat require enhanced septic systems? ☐ Yes ☐ No or ☐ N/A

- **Legal Address: Must Attach Copy of Recorded Deed**

Lot/Parcel Size: _____ feet by _____feet OR _____ acres
Subdivision:_____ Lot #_____ Block#_____ OR
Township:_____ Range:_____ Section:_____ ¼ ¼ Section:_____

Water Source: ☐ Private well, SEO Well#_____ ☐ Municipal_____(name)
☐ Cistern ☐ Community Well_____(name)

Installer Information: Name:_____
Address:_____
Phone:_____ E-mail:_____

Signatures: All undersigned certify under penalty of perjury that the owner or applicant has secured and shall maintain permission for County personnel and their invitees to access the permitted site, including (i) permission to access the land where the site is located, (ii) permission to collect resource data as defined by Wyoming Statute § 6-3-414, and (iii) permission to enter and cross all properties necessary to access the site if the site cannot be directly accessed from a public road. All undersigned agree to comply with all applicable Wyoming Statutes and Regulations and Sheridan County Rules & Regulations and to allow the activities described in this application.

Property Owner Printed Name:_____
Mailing Address:_____
Phone:_____ E-mail:_____

Property Owner Signature:_____ (REQUIRED)

Engineer/Geologist Printed Name: (if required)_____
Mailing Address:_____
Phone:_____ E-mail:_____
WY P.E.#_____ WY P.G.#_____

Engineer/Geologist Signature & Seal:_____

Site Suitability

The owner must be aware of the depth of the impermeable soil layer, the seasonal high groundwater level, and slope when considering system location. **A County representative must inspect a ground water test pit prior to application submission. Call (307) 674-2920 to schedule an inspection.** Upon inspection, answer below:

EXCAVATION	Was an excavation conducted within the **proposed location** of leachfield?	☐ Yes	☐ No
	Was the test pit open at least 24 hours prior to inspection?	☐ Yes	☐ No
	Was bottom of the excavation <u>at least 4 feet below</u> bottom of the proposed leachfield?	☐ Yes	☐ No
	Depth of Excavation?		
	Who conducted the excavation?:_____ Date:_____		
	Name of County Representative to inspect test pit:_____ Date:_____		

SLOPE	What is the estimated slope of the proposed leachfield area?
	How far away is the nearest break in slope (such as the side of a hill)?

OTHER	How far away is the nearest surface water body, such as a lake, river, pond, creek, ditch, or wetland from the proposed leachfield area?		
	How far away are areas where the soil may be compacted by vehicles, such as roads or parking spaces, from the proposed leachfield area?		
	How far away are water supply wells (drinking or irrigation wells), cisterns, or water supply lines from the proposed leachfield area?		
	Do surface drainage features (ditches, depressions, or swales) direct runoff from paved areas such as roofs, patios, or driveways, away from the leachfield?	☐ Yes	☐ No

County Inspector will complete the following:

IMPERMEABLE LAYER	Was a rock layer observed?	☐ Yes	☐ No
	If yes, at what depth below ground surface?		
	Was a clay layer observed?	☐ Yes	☐ No
	If yes, at what depth below ground surface?		

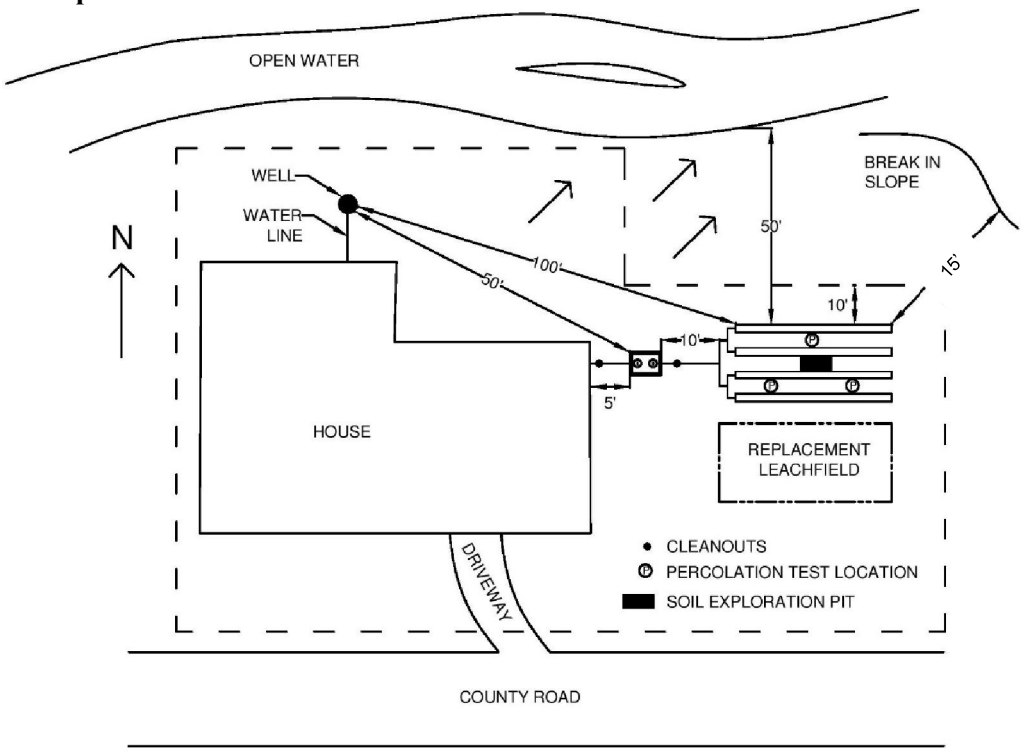
HIGH GROUNDWATER	Was groundwater present in the excavation?	☐ Yes	☐ No
	If yes, at what depth below ground surface?		
	Did the soil have a mottled color (which can be indicative of groundwater)?	☐ Yes	☐ No
	If yes, at what depth below ground surface?		
	Was the soil stained a dark color or was a salt/alkali layer encountered?	☐ Yes	☐ No
	If yes, at what depth below ground surface?		
	Does the soil have an alkali crust at the surface, a rotten egg smell, or a blue-gray or greenish-gray color that may indicate frequent/continuous saturation?	☐ Yes	☐ No
	If yes, at what depth below ground surface?		

Site Plan Drawing

<u>Attach</u> a sketch or digitally generated design of your site plan as a separate sheet showing each of the applicable items from the table below.

Check Box If Shown On Site Plan	Element	Required Setback Distance To Septic Tank (feet)	Required Setback Distance To Leachfield (feet)	Is the Setback Distance Satisfied?
☐	Property lines	10	10	☐ Yes ☐ No
☐	All buildings, roads, and driveways	—	—	—
☐	Setback to buildings w/out a foundation drain	5	10	☐ Yes ☐ No
☐	Setback to buildings with a foundation drain	5	25	☐ Yes ☐ No
☐	Private wells (including neighbors)	50	100	☐ Yes ☐ No
☐	Public water supply wells	100	200	☐ Yes ☐ No
☐	Potable water supply lines	25	25	☐ Yes ☐ No
☐	Surface water (ditch, pond, Intermittent waterways, etc.)	50	50	☐ Yes ☐ No
☐	Septic tank	—	10	☐ Yes ☐ No
☐	Break in slope (where slope gets abruptly steeper)	15	15	☐ Yes ☐ No
☐	Cisterns	25	25	☐ Yes ☐ No
☐	Leachfield & Replacement Leachfield	10	—	☐ Yes ☐ No
☐	North arrow	—	—	—
☐	Slope (arrow pointing downslope)	—	—	—
☐	Location of numbered percolation test holes (numbered)	—	—	—
☐	Location of soil exploration pit	—	—	—
☐	Location of cleanout port(s)	—	—	—

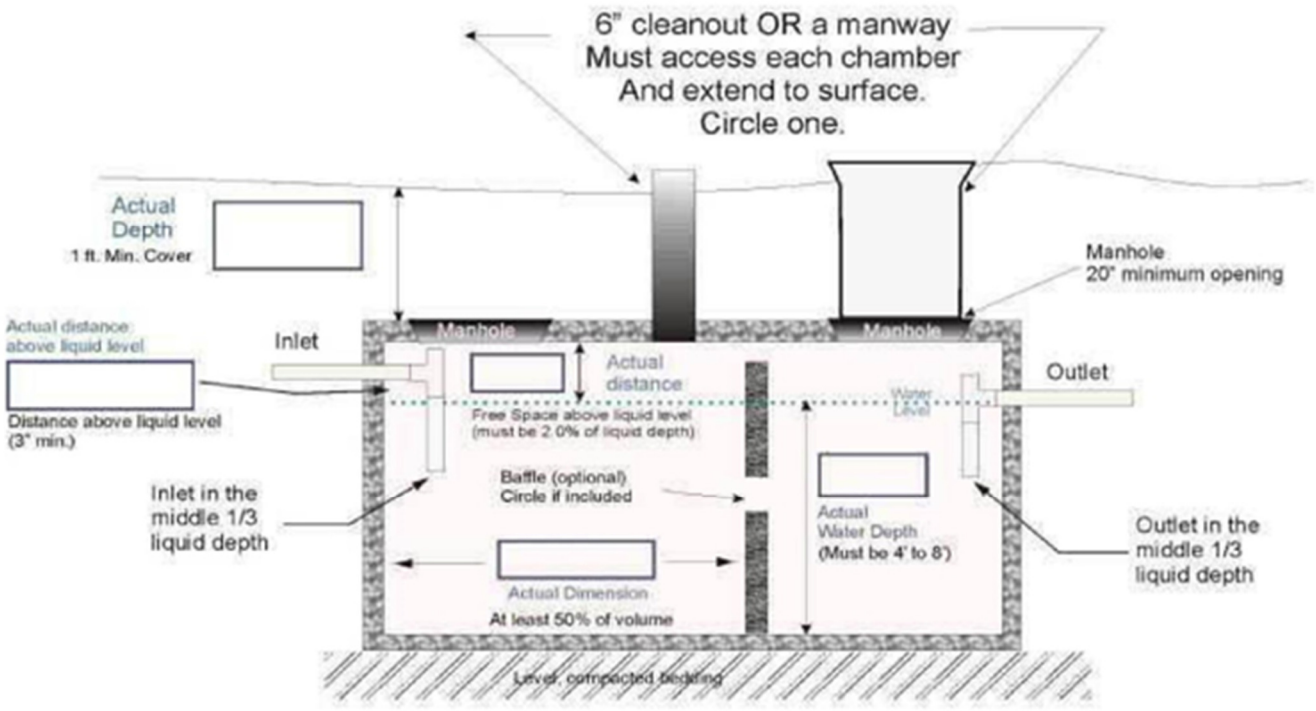
Example Site Plan:



Basic Design Requirements for Septic Tanks

1. Tanks must have a minimum of a 1,000-gallon capacity for residences with up to four bedrooms; add 150 gallons of capacity for each additional bedroom.
2. The tank must be watertight, including all joints and connections, and constructed of a durable, non-corrodible material such as concrete, fiberglass, thermoplastic or other approved material. DEQ regulations do not allow steel tanks.
3. The liquid depth shall be between three (3) and six (6) feet deep.
4. A single chamber tank shall have at least a 2:1 length to width ratio or be partitioned to prevent short-circuiting.
5. The first chamber in any two-chambered tank must accommodate at least 50 percent of the capacity.
6. Each chamber must have an access opening with a minimum dimension of 20 inches, from which both inlet and outlet tees shall be accessible.
7. Each chamber must have a cleanout riser that extends to a maximum of six (6) inches below the ground surface.
8. The inlet and outlet tees should be 4-inch diameter, schedule 40 PVC or equivalent, and should extend into undisturbed soil.
9. Install tanks used in a series such that the inlet to each successive tank shall be at least two (2) inches below the outlet of the preceding tank.

Complete applicable boxes on diagram (shown as two chamber):



*All Septic tanks are required to meet or exceed County and State Rules and Regulations.
*Refer to Section 20 of the Sheridan County Rules and Regulations Governing Wastewater Systems for full requirements.

Septic Tank and Piping Worksheet

SEPTIC TANK	Is the Septic Tank on the approved list?	☐ Yes	☐ No
	*If **Yes**, provide the following:* Manufacturer:_____ Model:_____ Size:_____ Tank Material:_____		
	***If No**, provide a tank diagram from the manufacturer and complete the following information:* Internal Dimensions: Length (in):_____ Width (in):_____ Height (in):_____ Liquid Depth (in):_____ Amount of Air Space Between top of liquid & Chamber Ceiling (in):_____ Tank Material:_____ Operating Capacity: (_____ * _____ * _____) ÷ 231 = _____ gallons Length (in) Width (in) Liquid Depth (in) Operating Capacity		
	Depth of backfill over tank: (minimum of 6" required)		
	Residences up to 4 bedrooms – Is the tank size 1,000 gallons or more?	☐ Yes	☐ No
	If more than 4 Bedrooms – Does the tank have additional capacity of 150 gallons per additional bedroom, above 1,000 gallons?	☐ Yes	☐ No
	Does the tank have a 20-inch access opening in **EACH** compartment of the tank and a riser from the access opening that terminates at a max of six inches below ground surface?	☐ Yes	☐ No
	Is septic tank installed on a level grade, with firm bedding to prevent settling, and without rock or other obstructions touching the tank per WQRR Chapter 25, sec. 10(a)(ii)?	☐ Yes	☐ No
	If installing two tanks in a series, install the downstream tank a minimum of 2 inces lower that the first in insure proper flow. Will the installer use a series of tanks as described?	☐ Yes	☐ No
	Do access opening have a locking device?	☐ Yes	☐ No

PIPING	What is the **Piping material** from the building to the septic tank?		
	What is the **Pipe size (diameter)**?		
	Is the pipe from building to the septic tank in a straight line?	☐ Yes	☐ No
	If No, will cleanout ports be installed at any alignment change greater than 22.5 degree? **This is Required.**	☐ Yes	☐ No
	Is the pipe from building to the septic tank greater than 100 feet?	☐ Yes	☐ No
	If Yes, will the required cleanout ports be spaced along the line every 100 feet or less?	☐ Yes	☐ No
	DEQ recommends a cleanout port facing each direction between the building and the tank. In only one is used, which direction does the required cleanout port face? ☐ Toward Building ☐ Toward Tank		
	Is there a cleanout port just outside the building?	☐ Yes	☐ No
	Does the piping have a minimum slope of ¼ inch per foot (2%)?	☐ Yes	☐ No
	If installer uses more than one trench, they must use a distribution box or flow divider tee to equalize flow. Will there be a distribution box or flow divider tee?	☐ Yes	☐ No
	Are all leachfield trenches less than 100 feet? **This is Required.**	☐ Yes	☐ No

Percolation Test Instructions

In order for a septic system to perform properly, the wastewater must move through the soil at an ideal rate, neither too fast nor too slow. A percolation test estimates the rate at which the water will percolate, or move, through the soil. The information provided by percolation tests is necessary to design leachfields correctly. Follow the steps below to complete a percolation test.

1. **Location of Percolation Test Holes.** The percolation (perc) test holes must be spaced uniformly over the proposed leachfield site. A minimum of three (3) test holes are required, although you can use more if desired.

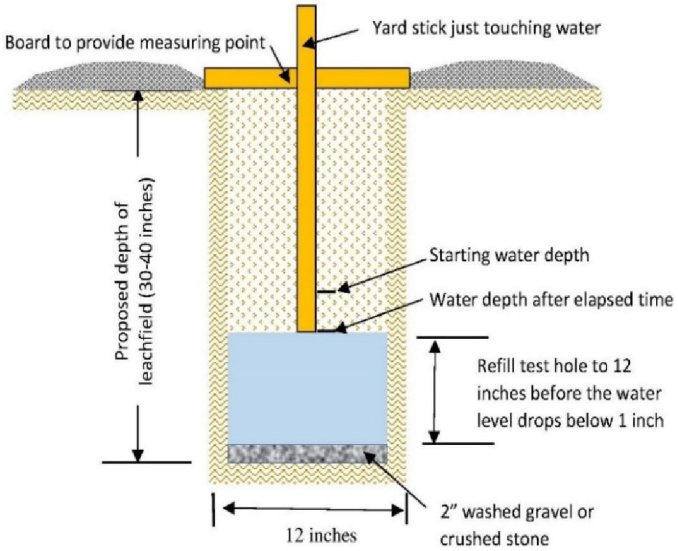
2. **Test Hole Preparation.** Dig or bore each hole 12 inches wide and as deep as the proposed depth of the leachfield (usually between 30 and 40 inches). Make sure the sides are vertical and scrape the sides and bottom of the hole with a sharp pointed instrument to restore a natural soil surface. Remove loose soil from the hole and place 2 inches of course sand, washed gravel, or crushed stone in the bottom in order to prevent scouring or sealing.

3. **Presoaking.** Presoaking is ***absolutely*** required to get valid percolation test results. Presoaking allows the water conditions in the test hole to reach a stable condition that is similar to a leachfield. Presoaking time varies with soil conditions, but presoak holes for at least 4 hours. Maintain at least 18 inches of water in the test holes for at least 4 hours, then allow the soil to swell for 12 hours (overnight is good) before starting the perc test. For sandy or loose soils, add 18 inches of water above the gravel or coarse sand. If the 18 inches of water seeps away in 18 minutes or less, add 18 inches of water a second time. If the second filling of 18 inches of water seeps away in 18 minutes or less, the soil is excessively permeable and the site is unsuitable for a conventional disposal system. If this is the case, contact your county small wastewater permitting authority or DEQ district office.

4. **Perc Rate Measurements.** Fill each hole with 12 inches of water and let the soil re-hydrate for 15 minutes prior to taking any measurements. Establish a fixed reference point such as a flat board placed across the top of the hole to measure the incremental water level drop at the constant time intervals. Measure the water level drop to the nearest 1/8 of an inch with a minimum time interval of 10 minutes. Normal time intervals are usually 10 or 15 minutes.

Refill the test hole to 12 inches above the gravel before starting the measurements. Measure down to the water from the fixed reference point. Record this value on the first line in the perc test data sheet (Page 10). Take another measurement after the time interval has elapsed and record on the second line of the table. Calculate the water level drop and record in the table.

Continue the test until the water level drop rate has stabilized, i.e. three consecutive measurements within 1/8 inch of each other. Before the water level drops below 1 inch above the gravel, refill the test hole to 12 inches. Some test holes may take longer to stabilize than others. If the drop rate continues to fluctuate, use the smallest drop rate out of the last six intervals for your calculations.



Percolation Test Data Sheet

Owner/Project Name: _____ Date: _____

Test holes were pre-soaked for: _____ (hours/minutes) Time Interval:_____ min

Do not perform percolation test if ground is frozen or if groundwater is present in holes. Holes must be 12 inches in diameter and evenly spaced over the leachfield area. Roughen sides and bottoms of holes and place 2 inches of gravel in each hole.													
		Hole #1 (Required)		**Hole #2 (Required)**		**Hole #3 (Required)**		**Hole #4 (Optional)**		**Hole #5 (Optional)**		**Hole #6 (Optional)**	
Depth of Hole:													
Time of Day	**Time (Min)**	**Measure to nearest 1/8 inch**		**Measure to nearest 1/8 inch**		**Measure to nearest 1/8 inch**		**Measure to nearest 1/8 inch**		**Measure to nearest 1/8 inch**		**Measure to nearest 1/8 inch**	
		Water Level	**Drop**	**Water Level**	**Drop**	**Water Level**	**Drop**	**Water Level**	**Drop**	**Water Level**	**Drop**	**Water Level**	**Drop**
			—		—		—		—		—		—
Time Interval (minutes)													
Final Interval Drop (inches)													
Perc Rate (min/inch)													
								Design Perc Rate (min/inch)					

To calculate drop: Subtract the water level measurement at the start of your time interval from the water level measurement at the end. The "Drop" is how far the water level went down during the stated time interval. Time intervals must be consistent for each hole throughout the test.

Leachfield percolation (Perc) rate: If 3 to 5 holes were tested, use the slowest (highest number) rate of the holes tested. If six or more holes were tested, use the average rate. Must Round Up.

Helpful Conversions:						
⅛ = 0.125	¼ = 0.25	⅜ = 0.375	½ = 0.5	⅝ = 0.625	¾= 0.75	⅞ = 0.875

To calculate Perc Rate (minutes per inch): Time Interval (Minutes) ÷ Final Water Level Drop (inches)

Example: *10 minutes ÷ 1⅛ inches = 8.9 minutes/inch*

I certify that the percolation test was done in accordance with Wyoming Water Quality Rules and Regulations and the instructions on the previous page.

_____ _____

Printed Name *Signature*

Leachfield Sizing Worksheet

Residential Design Flow Rate per Bedroom	
Quantity of Bedrooms	**Flow Rate (gpd)**
1 bedroom	150
2 bedrooms	280
3 bedrooms	390
4 bedrooms	470
5 bedrooms	550
6 bedrooms	630
An unfinished basement is considered two (2) additional bedrooms.	
The design flow shall be increased by eighty (80) gpd for each additional bedroom over six (6).	

Non-Residential Design Flow Rate-
Refer to Section 15 of Sheridan County Rules & Regulations Governing Wastewater Systems

☐ Check if applying for non-residential system

Facility Type_____

_____# Units

x _____Flow(gal/unit/day)

= _____Design Flow Rate

Complete for Residential Building (single family dwelling, mobile home)

How many bedrooms does the residence have? _____

Does the residence have an unfinished basement? ☐ Yes ☐ No

If Yes, you must add 2 more bedrooms to the number above

Total Bedrooms:_____

Design Flow Rate = _____ (gpd) *(from chart above)*

Design Perc Rate = _____ (mpi) From Test Data on page 9. Find Loading Rate, Round Up if decimal.

Percolation Rate (mpi)	Loading Rate (gpd/ft^2)	Percolation Rate (mpi)	Loading Rate (gpd/ft^2)	Percolation Rate (mpi)	Loading Rate (gpd/ft^2)	Percolation Rate (mpi)	Loading Rate (gpd/ft^2)
☐ 5	0.80	☐ 13	0.56	☐ 21	0.45	☐ 34-35	0.37
☐ 6	0.75	☐ 14	0.54	☐ 22	0.44	☐ 36-37	0.36
☐ 7	0.71	☐ 15	0.52	☐ 23-24	0.43	☐ 38-40	0.35
☐ 8	0.68	☐ 16	0.50	☐ 25	0.42	☐ 41-43	0.34
☐ 9	0.65	☐ 17	0.49	☐ 26-27	0.41	☐ 44-46	0.33
☐ 10	0.62	☐ 18	0.48	☐ 28-29	0.40	☐ 47-50	0.32
☐ 11	0.60	☐ 19	0.47	☐ 30-31	0.39	☐ 51-55	0.31
☐ 12	0.58	☐ 20	0.46	☐ 32-33	0.38	☐ 56-60	0.30

Loading Rate = _____ (gpd/ft^2)

Calculate Minimum Leachfield Sizing:

Design Flow (gpd) ÷ Loading Rate (gpd/ft^2) = **Minimum Required Leachfield**

_____(gpd) ÷ _____(gpd/ft^2) = _____**(sq. ft)** *(must round up)*

Leachfield Design Instructions

Arrange conventional septic system leachfields using either a trench or a bed layout. Construct either trench or bed layouts using either perforated pipe or open-bottom chamber systems. DEQ prefers trench layouts because they provide more surface area for absorption of wastewater into the soil. Trenches also treat wastewater more efficiently because the undisturbed soil between the trenches allows more oxygen to reach the microbes that break down and treat the wastewater. For this reason, trenches are also more effective when soils have lower or "slower" percolation rates. Use bed layouts where space for a leachfield is limited and only where soils have higher or "faster" percolation rates. DEQ considers trenches spaced less than three (3) feet apart as bed layouts.

To design your leachfield, follow these steps:

1) **Choose either a trench or a bed layout.**
2) **Choose either perforated pipe or open-bottomed chambers for your leachfield.**
3) **Fill out the layout worksheet and diagram that correspond to your selection. This worksheet will determine how many trenches you need or how large to make your bed.**
4) **Submit <u>only</u> the worksheet and diagram that you completed.**

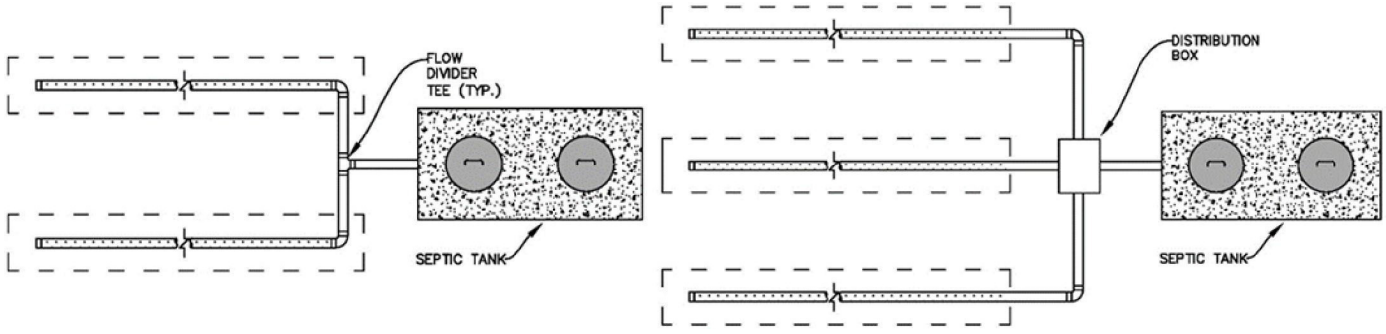
<u>Trench Leachfield System:</u>	**<u>Bed Leachfield System:</u>**
Perforated Pipe Trench Layout Worksheet, Page 13	Perforated Pipe Bed Layout Worksheet, Page 17
Chambered Trench Layout Worksheet, Page 15	Chamber Bed Layout Worksheet, Page 19

**Pressure Distribution or Sand Mound, Page 21 – refer to Sheridan County Rules & Regs governing small wastewater systems and contact the Public Works office to proceed*

Install leachfields to ensure equal distribution of wastewater effluent among all the trenches. Equal distribution allows the use of the entire infiltrative surface of the leachfield and prevents overloading part of the leachfield.

Use either a piping header or distribution box (D-box) to distribute wastewater effluent equally among the trenches of a leachfield. A piping header system conveys wastewater effluent to each disposal trench using a network of solid piping. Split the discharge line from the septic tank using a T-pipe fitting (see example below). If there is an odd number of trenches in the leachfield, use a distribution box to divide wastewater effluent evenly among the trenches (see example below). Distribution boxes are typically made of concrete or wastewater-grade plastics and are watertight with a single inlet set at a higher elevation than the outlets. Construct outlets so that their elevations are equal relative to one another.

Examples of Septic Systems Where the Effluent is Distributed Equally.



DEQ does not require installation of leachfield trenches in a straight line. In fact, it is always preferable to follow the contour of the land. Additionally, never install the leachfield in floodways, at the base of slopes, or in depressions where runoff water could flood the leachfield. Construct leachfields in areas with good surface drainage, where the water cannot pond over the leachfield.

Table 1. Chamber System Equivalent Areas

Wyoming DEQ Rules and Regulations Chapter 25 Section 8 allows for a 30% reduction in the leachfield area when using chambers in place of traditional pipe and stone systems. To calculate the reduction in square footage required to achieve the same amount of infiltrative surface as pipe trenches or beds, use the dimensions provided by the chamber manufacturer. In a trench configuration, the equivalent area is equal to Length * [(Chamber Width * 1.43) + (2 * Effective Sidewall Height)]. In a bed configuration the sidewall is not counted, so the equivalent area is equal to Length * (Chamber Width * 1.43). Use dimensions provided in the table below to design leachfields utilizing chamber technology on pages 16 (chamber trenches) or 20 (chamber beds) of the application package.

Chamber Class	Chamber Name	Nominal Dimensions			Effective Dimensions			Equivalent Area	
		Length (ft)	Width (in)	Height (in)	Length (ft)	Width' (in)	Height2 (in)	Trench Layout (sf/unit)	Bed Layout (sf/unit)
High Capacity	**Quick4 High Capacity**	4.4	34	16	4.0	34	11.5	**23.9**	**16.2**
	Quick4 Plus High Capacity	4.4	34	14	4.0	34	8.0	**21.5**	**16.2**
	Arc 36 High Capacity	5.3	34	16	5.0	34	10.5	**29.0**	**20.3**
	BioDiffuser 16" High Capacity	6.3	34	16	6.2	34	11.2	**36.7**	**25.1**
Standard	**Quick4 Standard**	4.4	34	12	4.0	34	8.0	**21.5**	**16.2**
	Quick4 Plus Standard	4.4	34	12	4.0	34	8.0	**21.5**	**16.2**
	Arc 36	5.3	34	13	5.0	34	7.0	**26.1**	**20.3**
	BioDiffuser 11" Standard	6.3	34	11	6.2	34	5.8	**31.1**	**25.1**
Standard Low Profile	**Quick4 Plus Standard LP**	4.4	34	8	4.0	34	3.3	**18.4**	**16.2**
	Arc 36 LP	5.3	34	8	5.0	34	3.8	**23.4**	**20.3**
Narrow	**Quick4 Equalizer 36**	4.4	22	12	4.0	22	6.0	**14.5**	**10.5**
	Arc 24	5.6	22	12	5.0	22	6.3	**18.3**	**13.1**
	BioDiffuser Bio 3	7.3	22	12	7.2	22	6.4	**26.5**	**18.9**
Narrow LP	**Quick4 Plus Equalizer 36 LP**	4.4	22	8	4.0	22	3.3	**12.7**	**10.5**
Ultra-Narrow	**Quick4 Equalizer 24**	4.4	16	12	4.0	16	6.0	**11.6**	**7.6**
	Arc 18	5.6	16	12	5.0	16	6.3	**14.7**	**9.5**
	BioDiffuser Bio 2	7.3	16	12	7.2	16	6.4	**21.3**	**13.7**
Ultra-Narrow LP	**Quick4 Equalizer 24 LP**	4.4	16	8	4.0	16	2.0	**9.0**	**7.6**

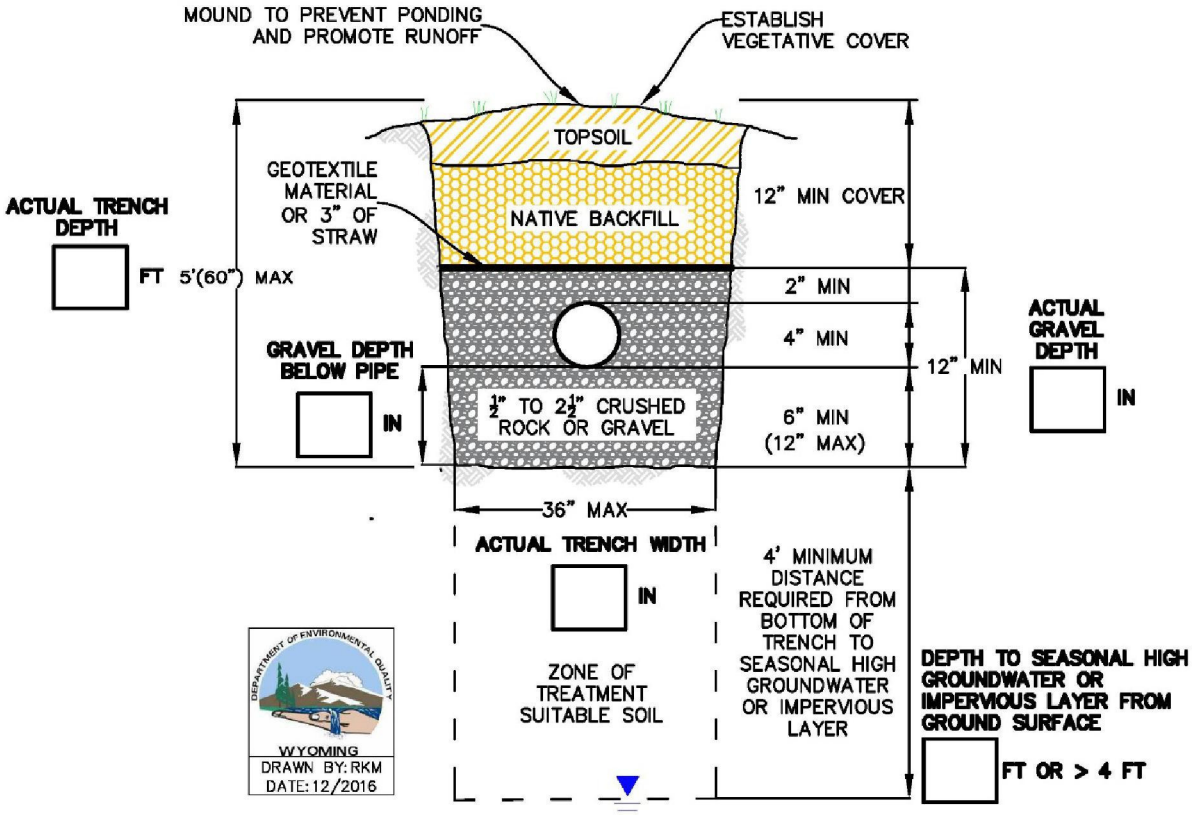
[1]The equivalent areas calculation used the outside width of the chamber.

[2]The effective height is the height of the slotted sidewall of the chamber or depth below the flow line of the inlet pipe, whichever is less.

Perforated Pipe Trench Layout Worksheet

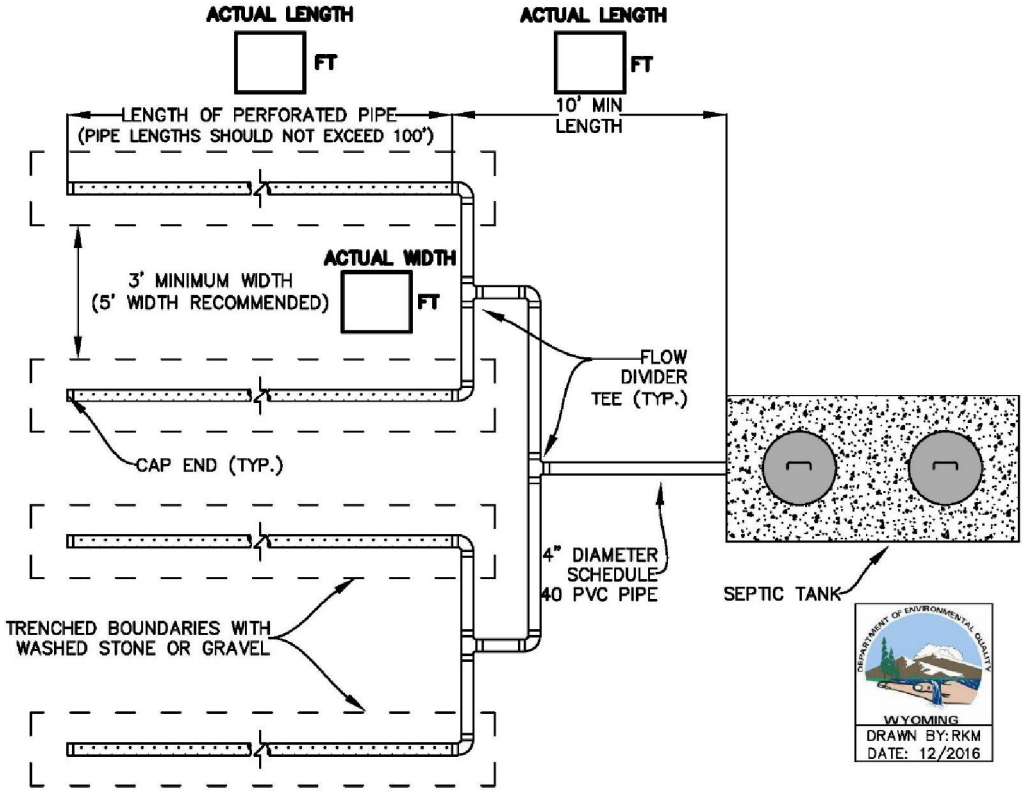
Design	Required Leachfield Area (Page 10)			Box 1
	Depth of Trench Below Pipe (ft)			Box 2
	Width of Trench (ft)			Box 3
	Absorptive Area Per Linear Foot of Trench (ft_2/ft)			Box 4
		Trench Depth (Box 2) + Trench Depth (Box 2) + Trench Width (Box 3) = Absorptive Area		
	Total Trench Length (ft)			Box 5
		Required Leachfield Area (Box 1) ÷ Absorptive Area (Box 4) = Total Trench Length		
Trench Layout	Number of Trenches to Use	**Total Trench Length (ft) (from Box 5)**	**Minimum Number of Trenches to Use**	Box 6
		<101	1	**Number of Trenches to Use = _____**
		101-200	2	**Length of Trenches =_____**
		201-300	3*	***A distribution box, or D-box, is required when an odd number of trenches is used.**
		301-400	4	
		401-500	5*	
		501-600	6	

Please fill in the boxes on the diagram below.



Perforated Pipe Trench Layout Diagram

Example Layout Diagram

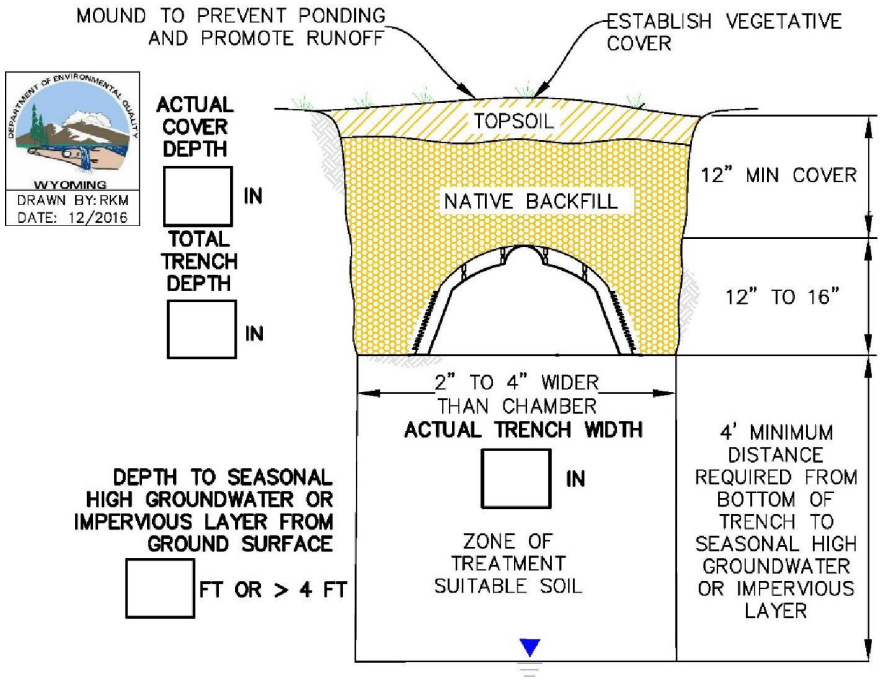


Draw your perforate pipe trench layout below or attach a separate sheet.

Chambered Trench Layout Worksheet

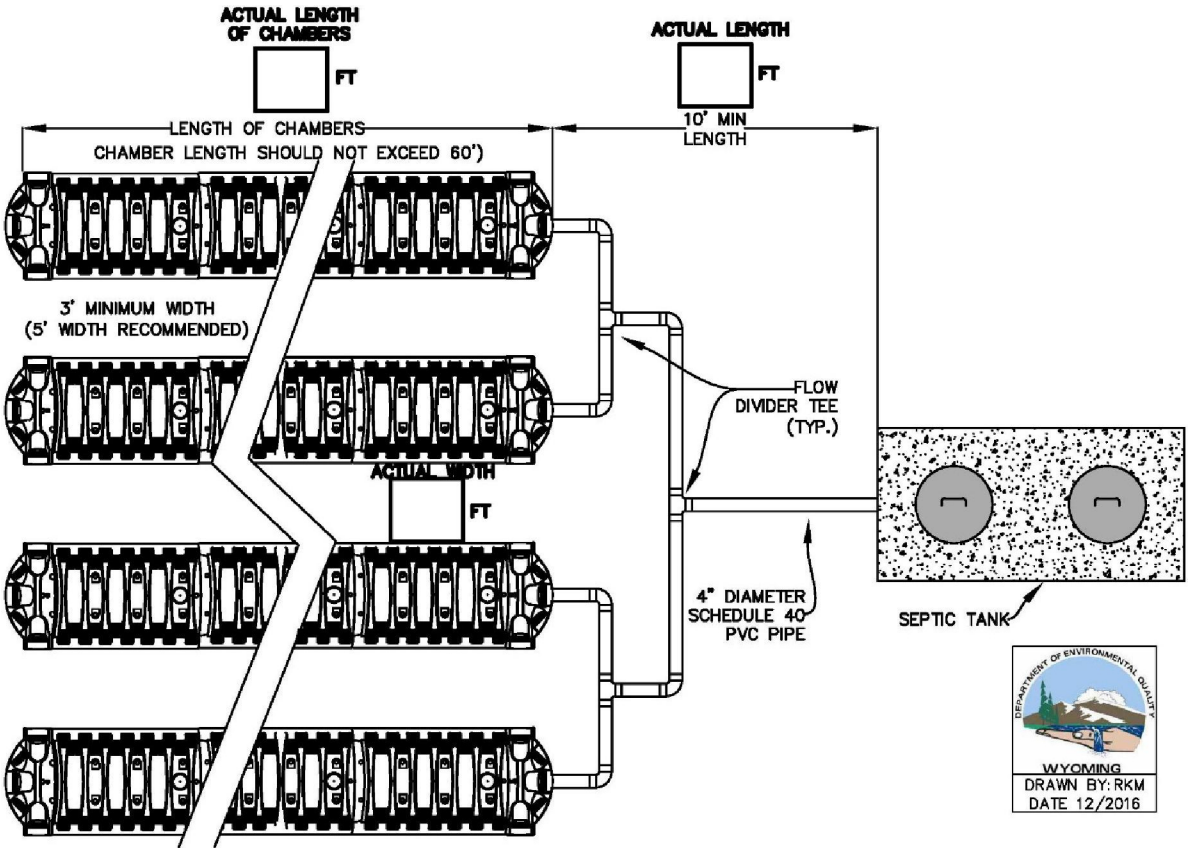
Chamber (See Table 1, Page 12)	Manufacturer			
	Model			
	Nominal Length (ft)			
	Nominal Width (in)			
	Nominal Height (in)			
	Effective Length (ft)			Box 1
Design	Required Leachfield Area (Page 10)			Box 2
	Equivalent Area Per Unit (See Table 1, Page 12)			Box 3
	Number of Chambers	÷	=	Box 4
		Required Leachfield Area (Box 2)	Equivalent Area Per Unit (Box 3)	Number of Chambers (Round Up)
Trench Layout	Total Trench Length (ft)	*	=	Box 5
		Number of Chambers (Box 4)	Effective Length (Box 1)	Total Trench Length
	Number of Trenches to Use	**Total Trench Length (ft) (from Box 5)**	**Minimum Number Of Trenches to Use**	Box 6
		<60	1	**Number of Trenches to Use =_____**
		61-120	2	**Length of Trenches =_____**
		121-180	3*	
		181-240	4	***A distribution box, or D-box, is required when an odd number of trenches is used.**
		241-300	5*	
		301-360	6	

Please fill in the boxes on the diagram below.



Chambered Trench Layout Diagram

Example Layout Diagram

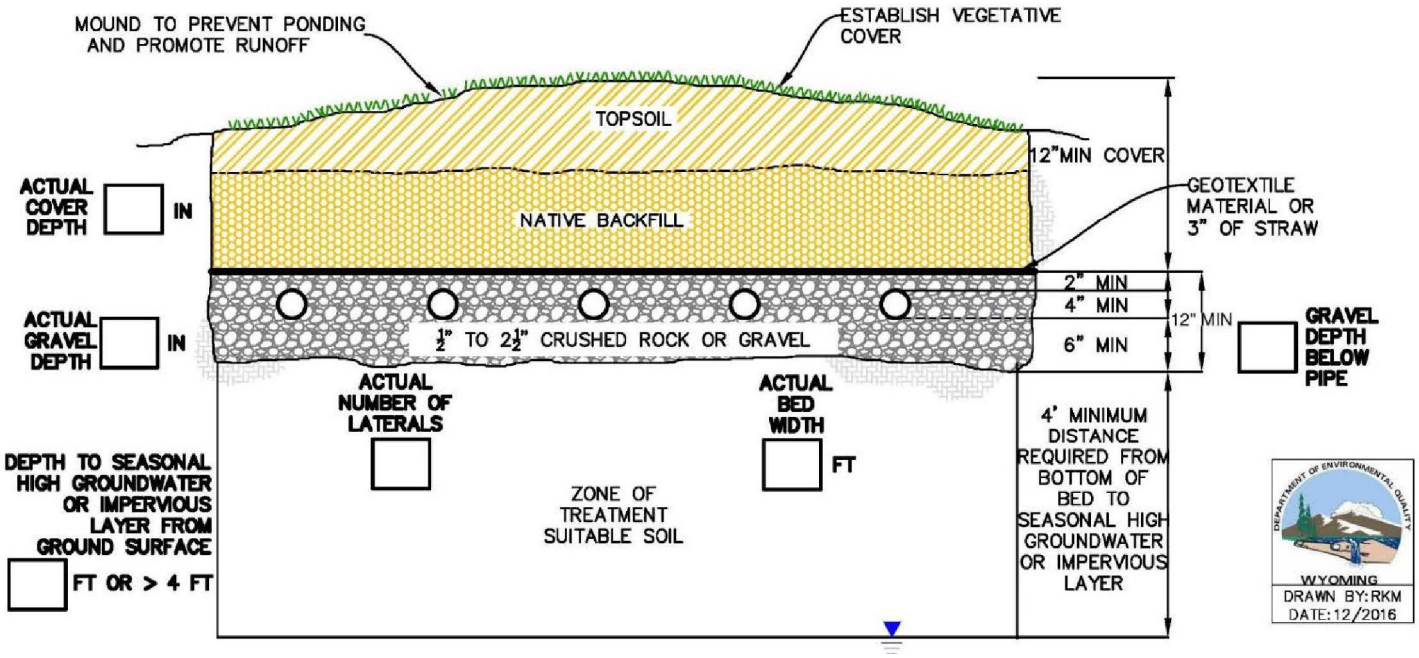


Draw your chambered trench layout below or attach a separate sheet.

Perforated Pipe Bed Layout Worksheet

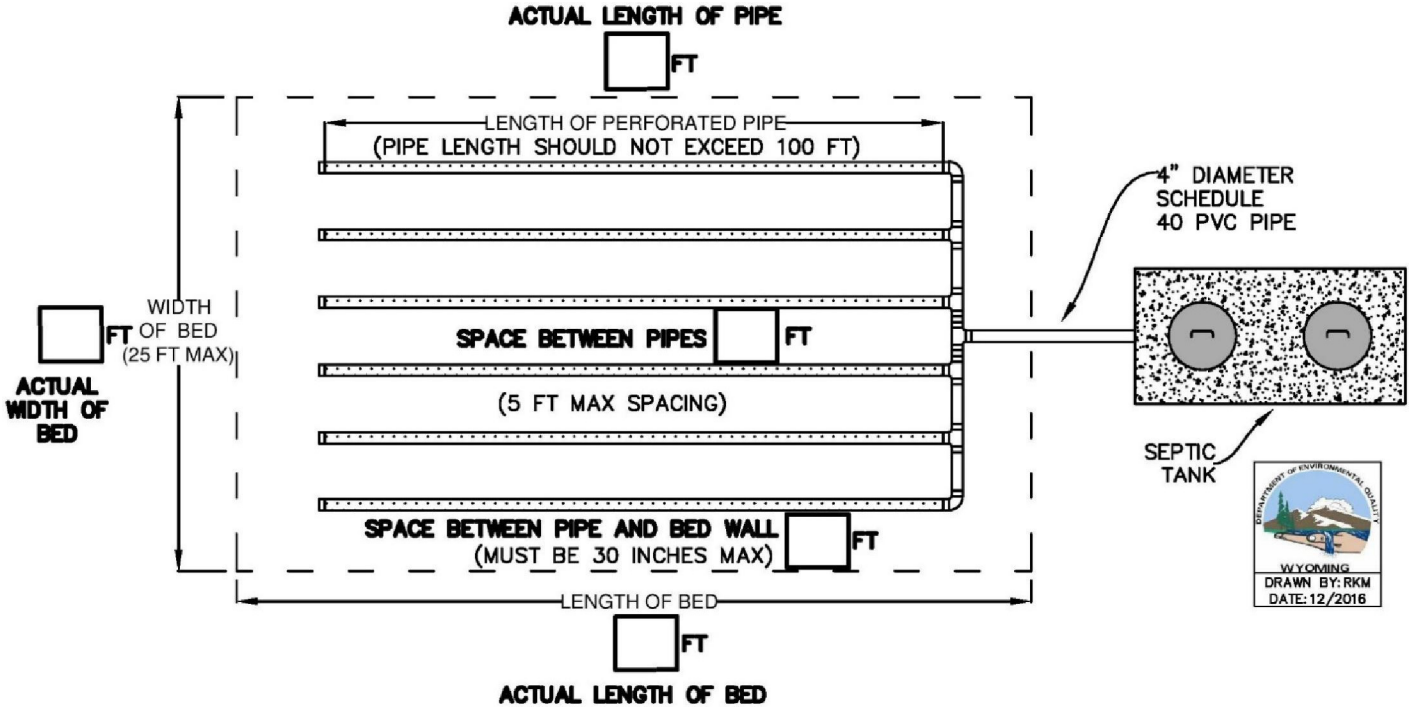
Design	Required Leachfield Area (Page 10)		Box 1
	Total Excavated Depth (ft)		
	Depth below pipe (ft)		
Bed Layout	Bed Width (ft)		Box 2
	Bed Length (ft)		Box 3
	Bed Total Square feet	*	= Box 4
		Bed Width (Box 2)	Bed Length (Box 3) Total Bed Area
	Is Box 4 greater than or equal to Box 1	☐ Yes ☐ No	
	If No, adjust Bed Width (Box 2) and Bed Length (Box 3) until Box 4 is greater than Box 1		
	If Yes, Complete page 18 & 19		

Please fill in the boxes on the diagram below.



Perforated Pipe Bed Layout Diagram

Example Layout Diagram

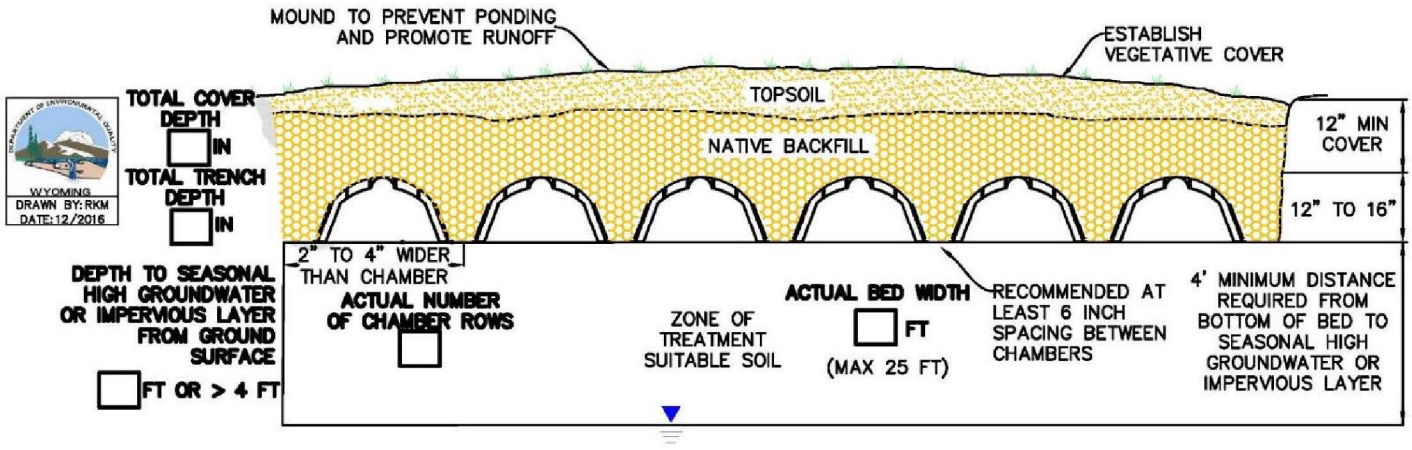


Draw your layout below or attach a separate sheet.

Chambered Bed Layout Worksheet

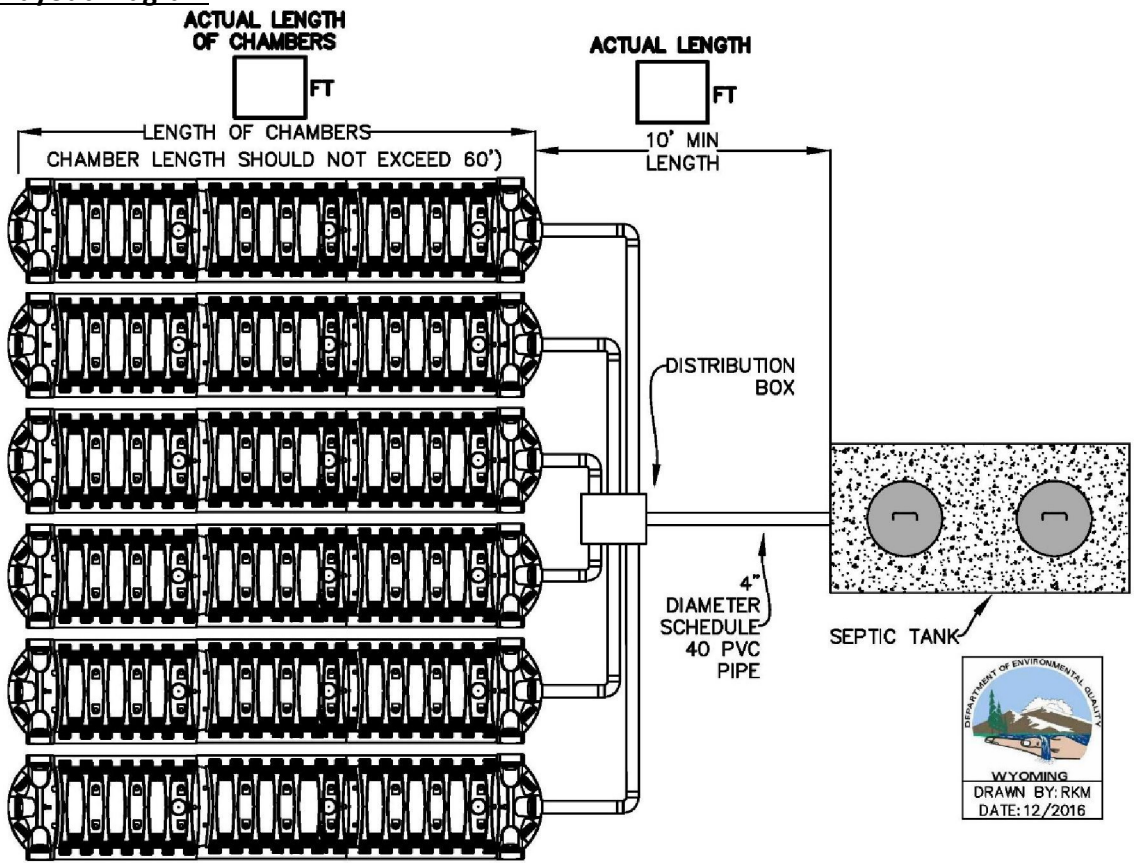
Chamber (See Table 1, Page 12)	Manufacturer			
	Model			
	Nominal Length (ft)			
	Nominal Width (in)			
	Nominal Height (in)			
	Effective Length (ft)			Box 1
Design	Required Leachfield Area (Page 10)			Box 2
	Equivalent Area Per Unit (See Table 1, Page 12)			Box 3
	Number of Chambers	÷	=	Box 4
		Required Leachfield Area (Box 2)	Equivalent Area Per Unit (Box 3)	Number of Chambers (Round Up)
Bed Layout	Total Chamber Length (ft)	*	=	Box 5
		Number of Chambers (Box 4)	Effective Length (Box 1)	Total Chamber Length
	Number of Chamber Rows to Use	**Total Chamber Length (ft) (from Box 5)**	**Minimum Number of Chamber Rows to Use**	Box 6
		<60	1	**Number of Chamber Rows to Use = _____**
		61-120	2	**Length of Rows =_____**
		121-180	3*	
		181-240	4	*A distribution box, or D-box, is required when an odd number of trenches is used.
		241-300	5*	
		301-360	6	

Please fill in the boxes on the diagram below.



Chambered Bed Layout Diagram

Example Layout Diagram



Draw your chambered bed layout below or attach a separate sheet.

Pressure Distribution or Sand Mound System

Refer to Rules and Regulations Governing Small Wastewater Systems in Sheridan County for these systems.

DOSING SYSTEM	**Pump Information**	Manufacturer:
		Model:
		Capacity (gpm):
	Pump Tank Information	Manufacturer:
		Model:
		Volume (gallons):
	Dosing Pipe Information	Diameter:
		Hole Size:
		Hole Spacing:
	Electrical Control Settings	Pump "On" to Pump "Off" volume (gallons):
		Pump "On" to Alarm volume (gallons):
		Alarm to Tank inlet (gallons):

Percolation Rate of Imported Material (mpi):
Was the Percolation Test performed on Imported Material? ☐ Yes ☐ No
If No, How was the Percolation Rate determined?
Percolation Rate of Native Soil (mpi) from Percolation Test Data:

Standard Mound System Detail