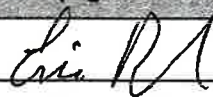
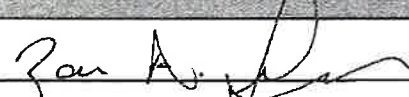


Small Wastewater Treatment Facility Application for Permit to Construct										
Use this application ONLY for small wastewater treatment facilities treating less than 2,000 gallons per day. For facilities exceeding 2,000 gallons per day, contact the <u>Underground Injection Control Program (UIC)</u> at 307-777-5623.										
For Converse (commercial systems only), Carbon, Niobrara, and Platte counties, submit completed packages to: DEQ/ Water Quality Division 200 W 17 th Street Cheyenne, WY 82002 (307) 777-7781					WQD Date Stamp					
For Campbell (commercial systems only), Crook, and Weston counties, submit completed packages to: DEQ/Water Quality Division 152 North Durbin Street, Suite 100 Casper, WY 82601 (307) 473-3465					WQD Authorization Stamp <div style="border: 1px solid black; padding: 5px; text-align: center;"> AUTHORIZED BY AUTHORITY OF Water Quality Rules and Regulations, Chapter III Director Department of Environmental Quality </div> PERMIT NO <u>2022-227</u> DATE <u>8/23/2022</u> BY <u>[Signature]</u>					
For all other counties: contact the <u>Small Wastewater Permitting Authority</u> for the correct forms. http://deq.wyoming.gov/wqd/permitting-2/resources/small-wastewater-permitting-authority/										
Name of Project:		Casper College - Barn 4 Septic System								
Project Description:		Install a septic system to connect to an existing classroom building								
Location:	County:		Natrona							
	¼ ¼ Section:	NESE	Section:	04	Township:	33N	Range:	80W		
	Decimal Latitude:		42.853454			Decimal Longitude:		-106.439207		
	Subdivision Name:				Lot and Block:					
Real Estate Owner					Engineer/Geologist					
Printed Name: Casper College					Printed Name: Zane Green, PE					
Title:					Title: Senior Civil Engineer					
Mailing Address: 468 N 6 Mile Road					Mailing Address: 2200 Foothills Dr., Suite A					
City, State:		Casper, WY		Zip: 82604		City, State:		Gillette, WY		Zip: 82716
Phone Number: 307-268-2492					Phone Number: 307-687-1812					
Email: eric.rulofson@caspercollege.edu					Email: zgreen@m-m.net					
					WY P.E.#		12927	WY P.G.#		
Installer Information	Name:		To Be Determined							
	Mailing Address:									
	City, State, Zip:									
	Phone:						Email:			

Septic Systems Application for a Permit to Construct

Property Information	County:	Natrona			
	Physical Address:	468 6 Mile Road, Casper, WY 82604			
	Lot Size:	_____ feet by _____ feet OR _____ acres			
	Type of Building:	Classroom - Educational Facility <small>(single family dwelling, mobile home, commercial, etc.)</small>			
	Water Source: (Check One)	<input type="checkbox"/>	Cistern		
		<input checked="" type="checkbox"/>	Private Well	SEO Well Permit Number:	_____
		<input type="checkbox"/>	Community Well	Name:	_____
		<input type="checkbox"/>	Municipal Well	Name:	_____
	Is this a replacement small wastewater treatment facility? If yes, what are you replacing?		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Type replaced: Bathroom discharged to a pipe into a small gravel area - no septic tank present
	Will this small wastewater treatment facility be located within a delineated source water protection area?		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Does the county approved plat require enhanced septic systems? If yes, do NOT proceed with this application. Contact your district engineer to discuss other options.		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
Provide legal description of property (from sales contract or deed) below and attach a copy of the county approved plat.					
Access Route					
As part of this application, the applicant shall certify under penalty of perjury that the applicant has secured and shall maintain permission for Department of Environmental Quality 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. A map of the access route(s) to the site shall accompany this application. Attach map as a separate sheet.					
Signatures					
All undersigned certify under penalty of perjury that the owner or applicant has secured and shall maintain permission for Department of Environmental Quality 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 to allow the activities described in this application.					
Real Estate Owner (Signature Required)		Engineer/Geologist			
Signature:  7-20-22		Signature: 			
Printed Name: Eric Rulofson		Printed Name: Zane Green			
Title: Facility Operations Director		Title: Senior Civil Engineer			

Site Suitability

The owner must be aware of the depth of any impermeable soil layers, high groundwater levels, and slope when considering the septic system location. The septic system must meet the criteria listed in the Introduction (Page 2) for a conventional system to work properly. **If your site does not meet these criteria, stop filling out this form and contact your district engineer to discuss other options.** The questions below will ensure you have gathered the information necessary to determine if a conventional septic system is appropriate.

Excavation	Does the soil exploration pit lie within the area of the proposed leachfield?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	Was the bottom of the required soil exploration pit at least 4 feet below the bottom of the proposed leachfield, usually a minimum of 7-8 feet total depth? This is required.		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	Take a color photograph of the excavation, showing a tape measure against the sidewall of the trench. Submit a color copy of the photograph as a separate sheet. Photo included in packet?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Depth of the excavation?	6.5'	
	Who conducted the excavation?	Imberg-Miller Engineers	Date: 6/18/2021
Impermeable Layers	Did the excavator observe a rock layer below the surface?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	If yes, at what depth below the ground surface?		
	Did the excavator observe a clay layer below the surface?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	If yes, at what depth below the ground surface?		
High Groundwater	Was groundwater present in the excavation?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	If yes, at what depth below the ground surface?		3.5'
	Does the soil have an alkali crust at the surface, a rotten egg smell, or a blue-gray or greenish-gray (gley) color that may indicate frequent/continuous saturation?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	If yes, at what depth below the ground surface?		
	Does the soil have a mottled appearance with areas around roots or cracks that look like rust, or is the soil stained a dark red-black or red-brown color, which may indicate periods of saturation?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If yes, at what depth below the ground surface?			
Slope	What is the estimated slope of the proposed leachfield area? Take a color photograph of the proposed leachfield area and attach a copy as a separate sheet.		1:5%
	How far away is the nearest break in slope (the side of a hill or where the slope becomes abruptly steeper) from the proposed leachfield area?		0.75 Mi South
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?		400' W
	How far away are areas where the soil may be compacted by vehicles, such as roads or parking spaces, from the proposed leachfield area?		15' W
	How far away are water supply wells (drinking or irrigation wells), cisterns, or water supply lines from the proposed leachfield area?		100' N
	Do surface drainage features (ditches, depressions, or swales) direct runoff from paved areas such as roofs, patios, or driveways, away from the leachfield?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

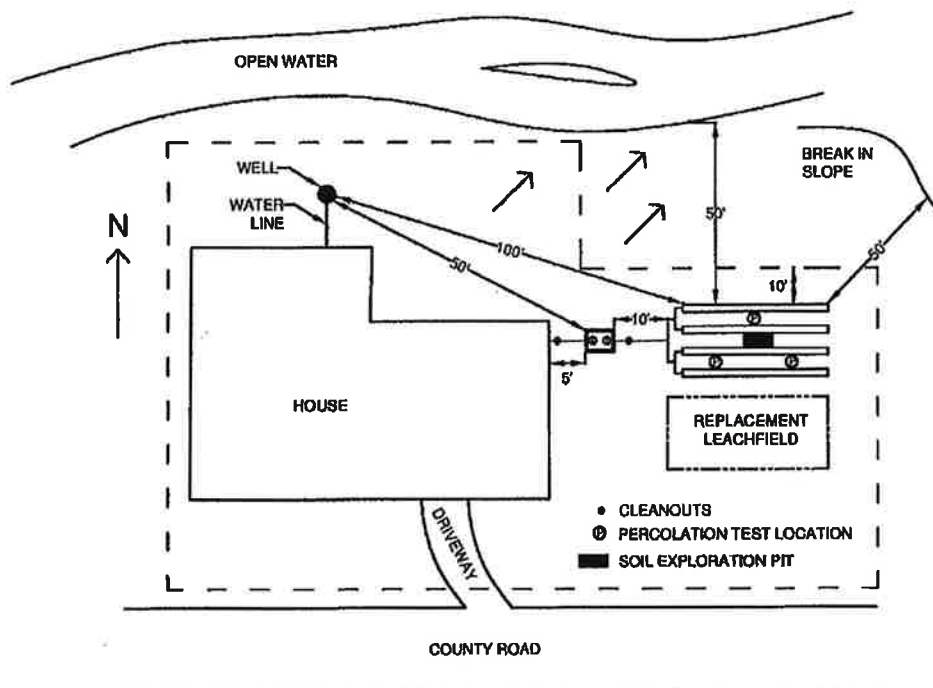
Septic Systems Application for a Permit to Construct

Site Plan Drawing

Attach a sketch of your site as a separate sheet, showing each of the items in the table below if applicable.

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?
<input checked="" type="checkbox"/>	Property lines	10	10	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input checked="" type="checkbox"/>	All buildings, roads, and driveways	—	—	—
<input checked="" type="checkbox"/>	Setback to buildings w/out a foundation drain	5	10	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/>	Setback to buildings with a foundation drain	5	25	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/>	Private wells (including neighbors)	50	100	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/>	Public water supply wells	100	200	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input checked="" type="checkbox"/>	Potable water supply lines	25	25	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/>	Surface water (ditch, pond, Intermittent waterways, etc.)	50	50	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input checked="" type="checkbox"/>	Septic tank	—	10	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/>	Break In slope (where slope gets abruptly steeper)	15	15	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/>	Cisterns	25	25	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input checked="" type="checkbox"/>	Leachfield & Replacement Leachfield	10	—	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input checked="" type="checkbox"/>	North arrow	—	—	—
<input checked="" type="checkbox"/>	Slope (arrow pointing downslope)	—	—	—
<input checked="" type="checkbox"/>	Location of numbered percolation test holes (numbered)	—	—	—
<input checked="" type="checkbox"/>	Location of soil exploration pit	—	—	—
<input checked="" type="checkbox"/>	Location of cleanout port(s)	—	—	—

Example site plan: Please see our [Site Plan Mapping Tool](#) on our website!



Septic Tank and Piping Worksheet

Septic Tank	Manufacturer:		Big Horn Precast, Powell WY		
	Model No./Number of Chambers:		2000 Gal, 2 Chamber		
	Size (gallons):		2000 Gal		
	Tank Material:		<input checked="" type="checkbox"/> Concrete <input type="checkbox"/> Fiberglass <input type="checkbox"/> Thermoplastic <input type="checkbox"/> Other (please describe): _____		
	Is this septic tank on the approved list?			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't Know	
	If no, provide a tank diagram from the manufacturer. If you cannot locate a diagram from the manufacturer, complete the following 3 rows. See Page 8 for septic tank design requirements and a diagram of a septic tank.				
	Please complete for tanks NOT on approved list.	Internal Dimensions: Length (in): _____ Width (in): _____ Height (in): _____			
		Liquid Depth (in):		Amount of Air Space Between Top of Liquid and Chamber Ceiling (In)	
		Operating Capacity	$(\text{Length (in)} * \text{Width (in)} * \text{Liquid Depth (in)}) \div 231 = \text{Operating Capacity}$		
	Depth of backfill over tank (minimum of 6" required)		2'	Number of bedrooms, if a residence:	
If more than 4 bedrooms: Does the tank have additional capacity of 150 gallons per additional bedroom above 1,000 gallons?				<input type="checkbox"/> Yes <input type="checkbox"/> 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 (6) inches below the ground surface?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Is septic tank installed on a level grade, with firm bedding to prevent settling, and without rock or other obstructions touching the tank as per WQRR Chapter 25, Section 10(a)(ii)?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
If installing two tanks in a series, install the downstream tank a minimum of 2 inches lower than the first to insure proper flow. Will the installer use a series of tanks as described?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Do access openings have a locking device?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Piping	What will the piping material between the house and the septic tank be?		SCH 40 PVC	What is the proposed pipe size (diameter)?	4"
	Will the installer lay the pipe from the house to the septic tank in a straight line?				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	If no, will the installer include the required cleanout ports at any alignment change greater than 22.5 degrees?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	Will the pipe from the house to the septic tank be more than 100 feet long?				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	If yes, will the required cleanout ports be spaced along the line every 100 feet or less?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	DEQ recommends a cleanout port facing each direction between the building and the tank. If only one is used, which direction does the required cleanout port face?				<input checked="" type="checkbox"/> Toward Building <input checked="" type="checkbox"/> Toward Tank
	Will the piping have a minimum slope of ¼ Inch per foot (2%)?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	If the installer uses more than one trench, they must use a distribution box or flow divider tee to equalize flow. Will the system include a distribution box or flow divider tee?				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Will the leachfield trenches be less than 100 feet long? This is required.				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Septic Systems Application for a Permit to Construct

Percolation Test Data Sheet

Owner/Project Name: Casper College

Date: 6/22/21

Test holes were pre-soaked for: 15^{hours} (hours/minutes)

Time Interval: 15 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:		4' 6"		3' 2"		4' 3"		3' 0"		4' 5"		3' 11"		
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	
Zero	8:45	0	10 3/4"	-	8 1/4"	-	7 1/2"	-	8 7/8"	-	10 1/4"	-	6 3/4"	-
1	9:00	15	Refill 10 3/4"	13 1/4 3.0	Refill 7 5/8"	8 3/4" 0.5	Refill 7 1/2"	9 1/2" 2.0	Refill 8 1/2"	9 3/8" 0.5	Refill 10.0	13.0" 2.75	Refill 6 7/8"	7 1/2" 0.75
2	9:15	30	Refill 11.0"	13.0 2.75	Refill 7 3/8"	8 1/4" 0.625	Refill 7 7/8"	9 3/8" 1.875	Refill 8 1/8"	9.0" 0.5	Refill 9 5/8"	12 1/8" 2.125	Refill 6 1/4"	7 1/2" 0.625
3	9:30	45	Refill 10 3/4"	12 7/8 1.875	Complete	7 7/8" 0.5	Refill 7 5/8"	9 1/2" 1.625	Complete	8 1/2"	Refill 10.0	12 1/8" 2.5	Refill 6.0"	7 1/8" 0.875
4	9:45	60	Complete	12 5/8 1.935	/	/	Refill 7 3/4"	9 3/8" 1.75	/	/	Refill 10 1/2"	12 1/2" 2.5	Refill 5 1/2"	6 7/8" 0.875
5	10:00	75	/	/	/	/	Complete	9.0 1.75	/	/	Refill 9 7/8"	12 5/8" 2.125	Complete	6 3/8" 0.875
6	10:15	90	/	/	/	/	/	/	/	/	Refill 9 7/8"	12 3/8" 2.5	/	/
7	10:30	105	/	/	/	/	/	/	/	/	Refill 9 5/8"	12 3/8" 2.5	/	/
8	10:45	120	/	/	/	/	/	/	/	/	Complete	12.0" 2.375	/	/
Time Interval (minutes)		15		15		15		15		15		15		
Final Interval Drop (Inches)		1.875		0.5		1.75		0.375		2.375		0.875		
Perc Rate (min/inch)		8		30		8.57		40		6.32		17.14		
Design Perc Rate (min/inch)										18.3 ≈ 18mp				

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.

Helpful Conversions: 1/8 = 0.125 1/4 = 0.25 3/8 = 0.375 1/2 = 0.50 5/8 = 0.625 3/4 = 0.75 7/8 = 0.875

To calculate perc rate (minutes per inch): Time Interval (min) ÷ Final Interval Drop (in)

$$\text{Example Perc Rate} = \frac{\text{Time Interval (min)}}{\text{Final Interval Drop (in)}} = \frac{10 \text{ min}}{1 \frac{1}{8} \text{ in}} = 8.9 \frac{\text{min}}{\text{in}}$$

I certify that this perc test was done in accordance with WQRR Chapter 25, Appendix A and the instructions on the previous page.

Test Performed by: W. Eric Nunn

Signature: W. Eric Nunn

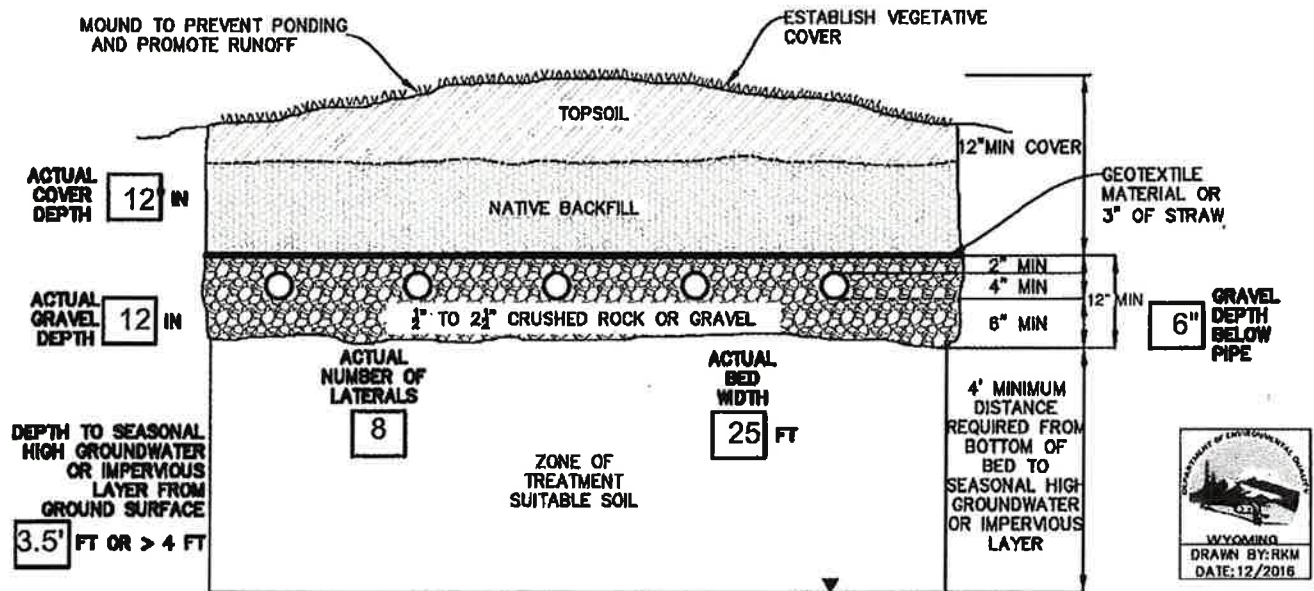
Leachfield Sizing Worksheet

Design Flow (gpd)	Please Select Building Type:	<input type="checkbox"/> Residential Building (Including Mobile Homes)	<p>How many bedrooms does the residence have?</p> <p>_____ bedrooms</p> <p>Does the residence have an unfinished basement?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If yes, add 2 more bedrooms to the number above.</p> <p>_____ Total bedrooms</p>	<p>Enter the number of gallons per day (gpd) of wastewater generated that corresponds with the number of bedrooms in Box 1 below.</p> <p>1 bedroom 150 gpd 2 bedrooms 280 gpd 3 bedrooms 390 gpd 4 bedrooms 470 gpd 5 bedrooms 550 gpd 6 bedrooms* 630 gpd</p> <p>*Add an additional 80 gallons per day for each bedroom over 6.</p>			
	<input checked="" type="checkbox"/> Non-residential Building	Refer to Chapter 25, Table 2. Show calculations and attach a separate sheet if necessary.					
Design Flow (gpd): Enter value from cells above or Chapter 25, Table 2 (attached):				900 GPD	Box 1		
Loading Rate (gpd/ft²)	Check Perc Rate Obtained from Perc Test Data Sheet (page 10)	Perc. Rate min/inch	Loading Rate gpd/ft ²	Perc. Rate min/inch	Loading Rate gpd/ft ²	Perc. Rate min/inch	Loading Rate gpd/ft ²
	<input type="radio"/> 5	0.80	<input type="radio"/> 16	0.50	<input type="radio"/> 30-31	0.39	
	<input type="radio"/> 6	0.75	<input type="radio"/> 17	0.49	<input type="radio"/> 32-33	0.38	
	<input type="radio"/> 7	0.71	<input checked="" type="radio"/> 18	0.48	<input type="radio"/> 34-35	0.37	
	<input type="radio"/> 8	0.68	<input type="radio"/> 19	0.47	<input type="radio"/> 36-37	0.36	
	<input type="radio"/> 9	0.65	<input type="radio"/> 20	0.46	<input type="radio"/> 38-40	0.35	
	<input type="radio"/> 10	0.62	<input type="radio"/> 21	0.45	<input type="radio"/> 41-43	0.34	
	<input type="radio"/> 11	0.60	<input type="radio"/> 22	0.44	<input type="radio"/> 44-46	0.33	
	<input type="radio"/> 12	0.58	<input type="radio"/> 23-24	0.43	<input type="radio"/> 47-50	0.32	
	<input type="radio"/> 13	0.56	<input type="radio"/> 25	0.42	<input type="radio"/> 51-55	0.31	
	<input type="radio"/> 14	0.54	<input type="radio"/> 26 - 27	0.41	<input type="radio"/> 56-60	0.30	
	<input type="radio"/> 15	0.52	<input type="radio"/> 28 - 29	0.40			
Loading Rate (gpd/ft²): Enter loading rate for your percolation rate from above table.				0.48 gpd/ft²	Box 2		
Leachfield Sizing (ft²)	Required Leachfield Area (ft²) Divide design flow (Box 1) by loading rate (Box 2). Round <u>up</u> to the nearest whole number.		<div style="display: flex; justify-content: space-around; align-items: center;"> 900 ÷ 0.48 = 1,875 ft² </div> <p>Design Flow (Box 1) ÷ Loading Rate (Box 2) = Leachfield Area (Box 3)</p> <p>Example: 300 gpd ÷ 0.62 gpd/ft² = 483.87 or 484 ft²</p>			Box 3	

Perforated Pipe Bed Layout Worksheet

Design	Required Leachfield Area (Page 11, Box 3)	1,875 ft ²	Box 1
	Total Excavated Depth (ft)	0.5'	
	Depth below pipe (ft)	1.5'	
Bed Layout	Bed Width (ft)	25'	Box 2
	Bed Length (ft)	75'	Box 3
	Bed Total Square feet	$25' \times 75' = 1,875 \text{ ft}^2$	Box 4
	Is Box 4 greater than or equal to Box 1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> If No, adjust Bed Width (Box 2) and Bed Length (Box 3) until Box 4 is greater than Box 1		
<input checked="" type="checkbox"/> If Yes, Complete bottom of Page 18			

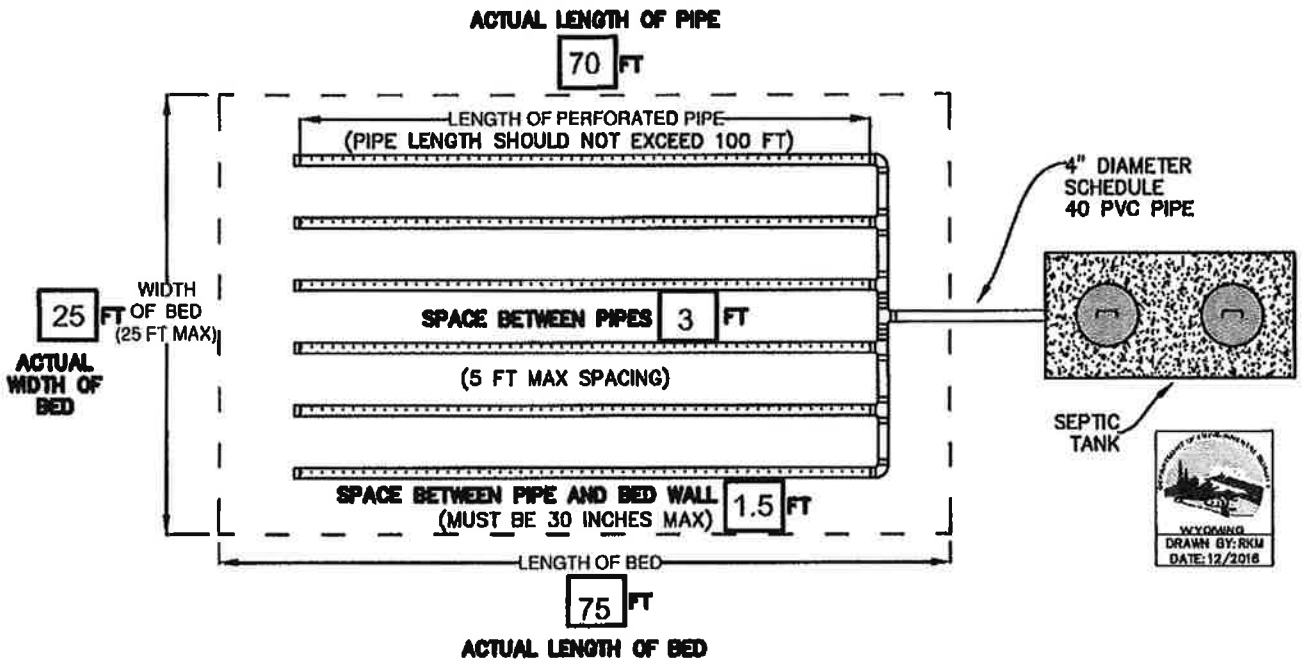
Please fill in the boxes on the diagram below.



SEE SHEET D-2 FOR CROSS SECTION. A SAND LAYER BETWEEN GRAVEL AND NATIVE 12" IS REQUIRED FOR PIPING TO BE > 4' ABOVE GROUNDWATER

Perforated Pipe Bed Layout Diagram

Example Layout Diagram



Draw your layout below or attach a separate sheet.

SEE ATTACHED PLANS