



# JOHNSON COUNTY PLANNING DEPARTMENT

26 N DeSmet Ave, Buffalo, Wyoming 82834  
Phone: (307) 684-1907  
E-mail: [jwaller@johnsoncowy.us](mailto:jwaller@johnsoncowy.us)

REC. BY: _____
DATE: _____
PERMIT #: _____
OFFICE USE

Form Revised 4/1/2018

## APPLICATION FOR SMALL WASTEWATER TREATMENT FACILITIES

**FEE: 200.00**

All septic systems within the unincorporated area of Johnson County, must be designed by a professional engineer licensed in the State of Wyoming.

Johnson County is authorized to permit small wastewater systems that are domestic waste only and less than 2000 gallons per day. Systems larger than 2000 gallons per day or contain other wastes that are not entirely domestic waste, must be permitted by the Wyoming Department of Environmental Quality, contact the **Underground Injection Control program (UIC) at 307-777-5623 OR the District Engineer for DEQ, Water Quality Division at 307-473-3465.**

An application is required for all new construction, installation, replacement, or repair of any small wastewater treatment facility within the unincorporated areas of Johnson County. Submission of this application does not grant permission to construct. A Permit to Construct must be issued by the Johnson County Planning Department before construction can commence. Inspection of the installed system is required prior to backfill.

Residential     
  New     
  Modification     
  Replacement  
 Other Non-Commercial

<b>Applicant:</b> _____	
<small>Name</small>	<small>Day &amp; Evening Phone Numbers</small>
<b>Mailing Address:</b> _____	
<b>E-mail:</b> _____	
<b>Installer:</b> _____	
<small>Name</small>	<small>Business Name</small>
<b>Mailing Address:</b> _____	
<b>Phone Number:</b> _____	<b>E-mail:</b> _____
<b>Owners Name:</b> _____ <b>Date:</b> _____	
<b>Phone #:</b> _____	
<small>Day</small>	<small>Evening</small>
<small>Cell</small>	
<b>E-mail:</b> _____	
<b>Mailing Address:</b> _____	
<small>Street</small>	<small>City/Town</small>
<small>State</small>	<small>Zip Code</small>
<b>Location of Facility:</b> _____ <b>Section</b> _____, <b>Township</b> _____ <b>Range</b> _____	
<small>Quarter/Quarter</small>	
<b>Site Address:</b> _____	
<b>Subdivision:</b> _____, <b>Block</b> _____, <b>Lot</b> _____	
*If in a subdivision, is the system in compliance with subdivision review standards? <input type="checkbox"/> YES <input type="checkbox"/> NO	
*Refer to subdivision covenants, if applicable, and plat for possible restrictions.	
Does the system require enhanced components? <input type="checkbox"/> YES <input type="checkbox"/> NO <b>If yes, provide all appropriate design sheets.</b>	
<b>Access:</b> As part of signing and submitting this application, the applicant certifies, under penalty of perjury, that the applicant has secured and shall maintain permission for Johnson County and/or Department of Environmental Quality personnel and their invitees to access the permitted site, including permission to access the land where the site is located, permission to collect resource data as defined by Wyoming Statute §6-3-414, and permission to enter and cross all properties necessary to access the site if the site cannot be directly accessed from a public road.	
<b>Signatures:</b> The information presented in this application is true and correct to my knowledge. I understand that presenting missing or incorrect information may result in my application being returned. I certify that the above described facility has been submitted in accordance with local, county, and state statutes as required. Said facility shall be constructed as authorized under the provisions specified in the Johnson County Septic Regulations. I Authorize representatives from the Department of Environmental Quality/Water Quality Division and/or Johnson County, during regular business hours, to have access to inspect the installed facilities prior to backfilling. I certify that the information included with this application is correct and true to the best of my knowledge and any missing information may cause delay in issuing the permit. I will install and construct the system in accordance with the regulations governing sewage systems in Johnson County. I will also notify the Planning Department when the system is ready for final inspection, prior to covering.	
<b>APPLICANT (if not owner):</b> _____ <b>DATE:</b> _____	
<b>PROPERTY OWNER(S):</b> _____ <b>DATE:</b> _____	

**BUILDING INFORMATION:**

Single Family Home: \_\_\_\_\_ Number of Bedrooms: \_\_\_\_\_ Will the basement be unfinished:\* \_\_\_\_\_

\*Add 2 bedrooms to the total number of bedrooms for an unfinished basement\*

Multiple Family Dwelling: \_\_\_\_\_ Number of Bedrooms: \_\_\_\_\_ Laundry Area Included: \_\_\_\_\_

Other OR Non-Commercial Use: \_\_\_\_\_ Specify gpd: \_\_\_\_\_

Size Or Capacity (gpd): \_\_\_\_\_ Water Supply:  Municipal \_\_\_\_\_ (Name)

Private Well \_\_\_\_\_ SEO Well Number \_\_\_\_\_

Other: \_\_\_\_\_

Is the building site within a flood prone area:  YES  NO

**If YES; site elevation data and additional site details may be required as directed in the Johnson County Flood Damage Prevention Ordinance.**

**SITE AREA:**

**Nearest Creek, River, or Ephemeral Stream (Name & Distance):** \_\_\_\_\_.

Lot Size: \_\_\_\_\_ ft. X \_\_\_\_\_ ft. Lot Area: \_\_\_\_\_ sq.ft. OR \_\_\_\_\_ acres

Ground Slope: \_\_\_\_\_ Soil Type: \_\_\_\_\_

**Percolation Test Results (ATTACH PERCOLATION TEST)**

(1); \_\_\_\_\_ (2): \_\_\_\_\_ (3): \_\_\_\_\_ (4): \_\_\_\_\_ (5): \_\_\_\_\_ (6): \_\_\_\_\_ Avg. 6 or more: \_\_\_\_\_

Depth to Seasonal Ground Water: \_\_\_\_\_ Depth to Bedrock or Impervious Layer: \_\_\_\_\_

Who, How, & When were these determined: \_\_\_\_\_

**Applications must include a color photo of the test pit and materials excavated.**

**SEPTIC TANK:**

Septic Tank Manufacturer: \_\_\_\_\_ Model: \_\_\_\_\_

Liquid Capacity: \_\_\_\_\_ Dimensions: (W) \_\_\_\_\_ (L) \_\_\_\_\_ (D) \_\_\_\_\_

Tank Material: \_\_\_\_\_ Number of Compartments: \_\_\_\_\_ Inlet and Outlet Type: \_\_\_\_\_

**DRAINFIELD:**

**Leachfield type:** Bed: \_\_\_\_\_ Trench: \_\_\_\_\_ Other: \_\_\_\_\_

Chamber Manufacture & Model: \_\_\_\_\_ Chamber EQ Area: \_\_\_\_\_

Effluent Distribution Device (type or Model): \_\_\_\_\_

\*Bed Dimensions: (W) \_\_\_\_\_ (L) \_\_\_\_\_ \*Trench Dimensions: (No.) \_\_\_\_\_, (W) \_\_\_\_\_, (L) \_\_\_\_\_, (# Chambers) \_\_\_\_\_

\*Perforated Pipe & Washed Rock—Max bed width 25 feet; Max trench length 100 feet. Chamber Systems—Max bed width 25 feet; Max trench length 60 feet\*

Depth of Gravel Below Pipe: \_\_\_\_\_ Infiltrative Surface Provided (sqft) \_\_\_\_\_

\*Depth from Bottom of Bed/Trench to Ground Surface: \_\_\_\_\_ Gravel Size: \_\_\_\_\_

\*Max depth to bottom of trench 5 feet (60 inches)

Is a replacement field reserved on the site plan?  YES  NO

Does the reserve area follow all site suitability requirements?  YES  NO

**Components & Materials:**

Are all required cleanouts, pipe specifications, and/or install materials identified on plan detail sheets?  YES  NO

Registered Engineer:

Engineering FIRM:

# Application Attachments

**All SWTF designs must be accompanied by Plans and specifications that identify the minimum listed.**

**1. Site Plan** (See Example Site Plan Appendix A)

- a. Include property lines
- b. All buildings proposed
- c. Surface Water (ditch, creek, pond, intermittent, etc.)
- d. Water lines
- e. All wells within 200 feet (Distances included)
- f. Include distances from Building to Tank and to Disposal Field
- g. Show replacement leachfield (meeting all site restrictions)
- h. Slope of land (drawn as an arrow indicating general slope direction)
- i. All other appropriate distances for a completed site plan
- j. Identify all required setbacks

**2. Site Suitability Information**

- a. Excavation/Exploration to at least 4 feet below the bottom of the proposed leachfield
- b. Include soil profile or color Photo of the cut and the Soils removed (can be e-mailed)

**3. Percolation Test Procedure** (Percolation Test Instructions & Example Appendix B)

- a. Complete percolation test

**4. Septic Tank profile/Cross Section**—Septic Tank Manufacturer, Model # from DEQ approved List

- a. Must follow basic design requirements and shall be approved for use.

**5. Leachfield/Disposal Field configuration and profile/Cross Section**

- a. Include Effluent Distribution details.

**6. Name, Address, Telephone number of Contractor installing the septic system.**

**7. Specifications:** Pipe materials, slope, cleanouts, vents, or similar requirements.

**8. Other information deemed pertinent to the SWTF design**

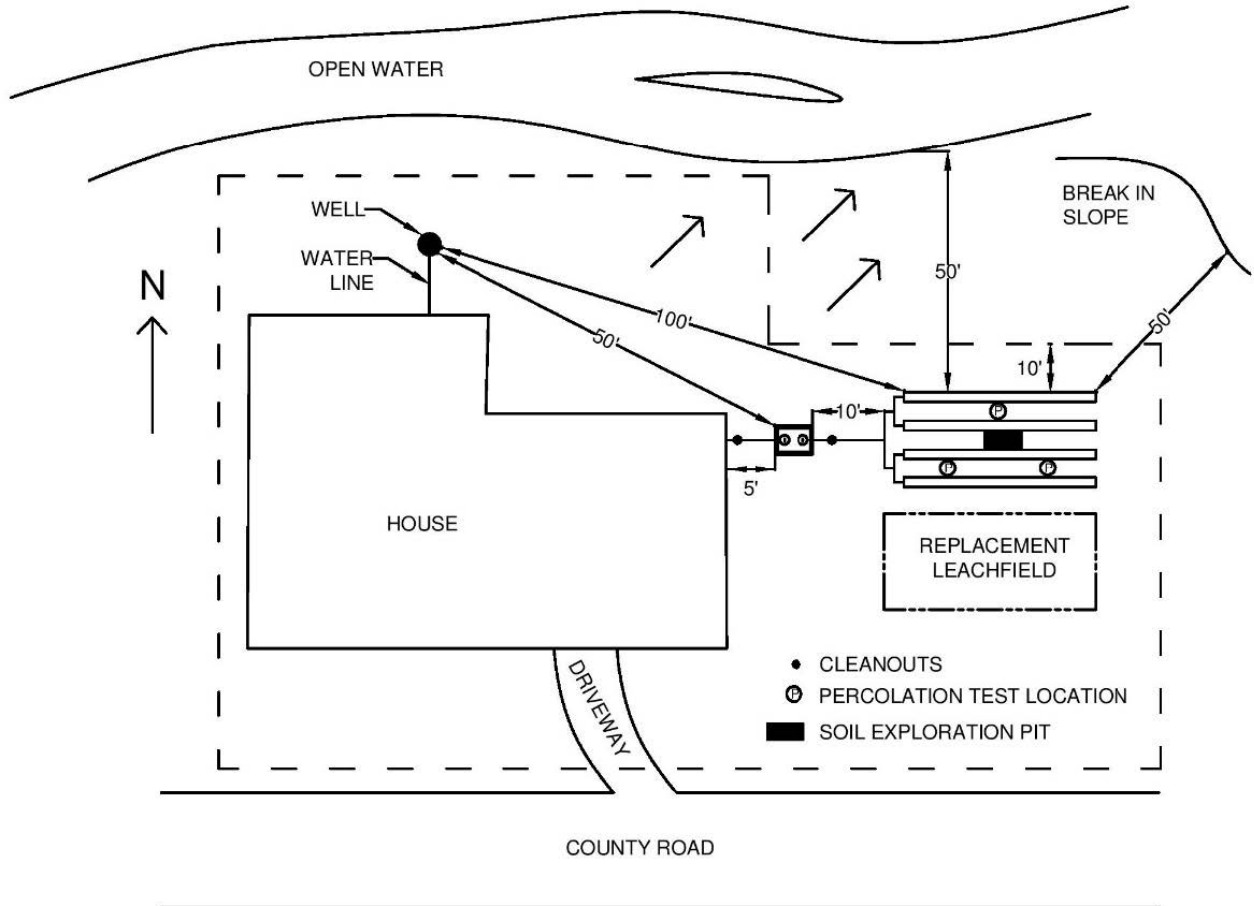
- a. All Applicable Design Calculation Sheets
- b. All Septic Components used in the design with specifications. (Specified Pumps, Pump Curves, Treatment Components or other related details)

**9. If the site is located within a FLOOD PRONE AREA; contact the Johnson County Planning Department. The Johnson County Flood Damage Prevention Ordinance may apply.**

**Johnson County, Wyoming Published Soil Survey available at the following web site:**

<http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>

## Appendix A Site Plan Example



Your Site Plan **Must** show the following items with the proposed distances. The table below provides the minimum distance required as well as the minimum items for a completed site plan.

From	To Septic Tank (Minimum in feet)	To Leachfield (Minimum in feet)
Property Lines	10	10
All buildings, roads, and driveways		
Open waterways (ditch, pond, intermittent waterways, etc.)	50	50
Public water supply wells	100	200
Wells	50	100
Potable water lines	25	25
Cisterns	25	25
Building foundation without foundation drain	5	10
Building foundation with a foundation drain	5	25
Break in slope	15	15
Septic tank	N/A	10
Replacement Leachfield	10	
Slope (arrow pointing downslope)		
Location of all Required Cleanouts		
Location of Exploration pit		
Location of numbered percolation test holes		

## Appendix B

# Percolation Tests

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 coarse 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.

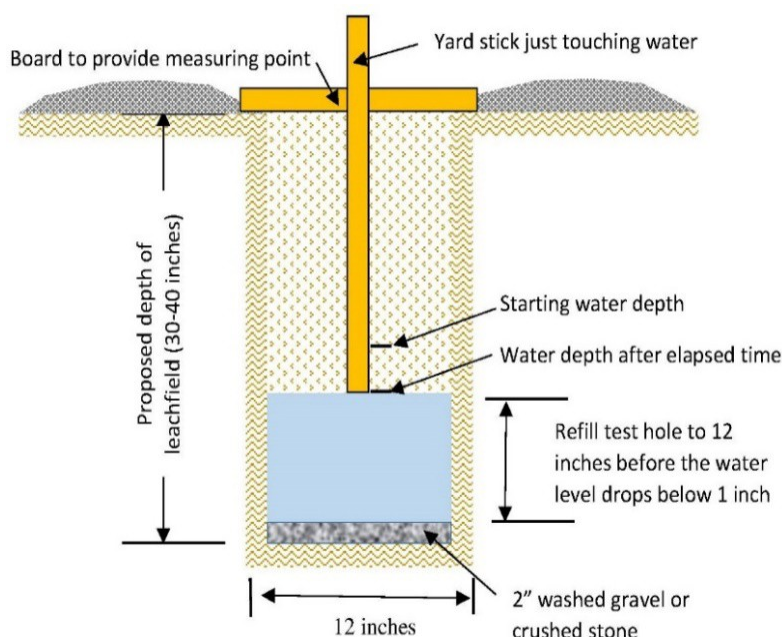
For sandy or loose soils, add 18 inches of water above the gravel or coarse sand. If the 18 inches of water seeps away in 18 minutes or less, add 18 inches of water a second time. If the second filling of 18 inches of water seeps away in 18 minutes or less, the soil is excessively permeable and the site is unsuitable for a conventional disposal system. If this is the case, contact your county small wastewater permitting authority.

**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 Hole Example



## PERCOLATION TEST DATA

Owner/Project Name: \_\_\_\_\_ Date: \_\_\_\_\_

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

<b>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.</b>														
		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	
			—		—		—		—		—		—	
<b>Time Interval (minutes)</b>														
<b>Final Interval Drop (inches)</b>														
<b>Perc Rate (min/inch)</b>														
										<b>Design Perc Rate (min/inch)</b>				

**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 Johnson County Small Wastewater Rules and Regulations, Appendix A and the instructions on the previous page.

**Test Performed by:** \_\_\_\_\_ **Signature:** \_\_\_\_\_