

5. Determine under what Oklahoma DEQ Soil Group does the finest soil identified in step 4 belong.

Soil Group	Corresponding Soil Textural Class
1	<input checked="" type="checkbox"/> Coarse sand <input checked="" type="checkbox"/> Loamy coarse sand
2	<input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Loamy sand (not including coarse sand or loamy coarse sand)
2a	<input checked="" type="checkbox"/> Sandy loam
3	<input checked="" type="checkbox"/> Sandy clay loam <input checked="" type="checkbox"/> Loam <input checked="" type="checkbox"/> Silt loam with < 20% clay <input checked="" type="checkbox"/> Silt
3a	<input checked="" type="checkbox"/> Sandy clay without slickensides with moderate and strong soil structure <input checked="" type="checkbox"/> Silt loam with > 20% clay
4	<input checked="" type="checkbox"/> Clay loam <input checked="" type="checkbox"/> Silty clay loam
5	<input checked="" type="checkbox"/> Sandy clay with slickensides or weak soil structure <input checked="" type="checkbox"/> Clay <input checked="" type="checkbox"/> Silty clay

6. Determine what Septic System Option that may be permitted in the area of interest.

Soil Group	Septic System Options			
	Conventional System	Low Pressure Dosing Field	With Aerobic Treatment Units	
			Drip Irrigation Field	Spray Irrigation Field
1	not allowed			
2	allowed	allowed	allowed	
2a	-depending upon the depth to the restricting layer or the water table	-depending upon the depth to the restricting layer or the water table	-depending upon the depth to the restricting layer or the water table	allowed
3				
3a				
4				
5	not allowed	not allowed		

Other Septic System Options

- Evapotranspiration/ Absorption (ET/ A) System - allowed in all soils but requires an area of at least 1 acre.
- Lagoons - allowed in all soils but requires an area of at least 2 ½ acres.

Estimated Cost of Septic Systems

For a three-bedroom family home, the following are the estimated cost (as of 2013):

Conventional System	\$3,000 - \$4,000
Low Pressure Systems	\$4,500 - \$5,000
Aerobic Treatment Units	
Spray Irrigation	\$5,500 - \$6,000
Drip Irrigation	\$7,500 - \$8,000
ET/ A Systems	\$4,000 - \$12,000

Online Resources

Oklahoma rules on septic systems:

<http://www.deq.state.ok.us/ecl-snew/index.htm>

Oklahoma Certified Installers Association: <http://www.ocia.s5.com>

For more information about onsite septic systems, contact:

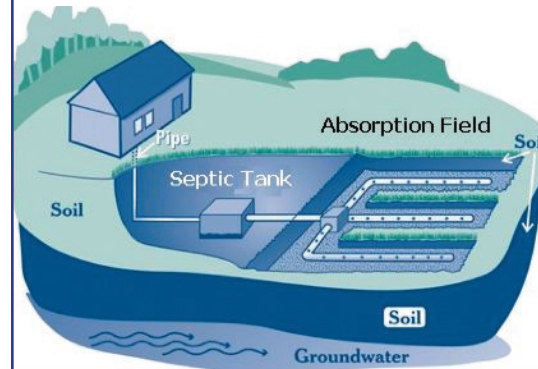
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Land Buyers' Septic System Guide for Oklahoma



L-430

Oklahoma Cooperative Extension Service

Division of Agricultural Sciences and Natural Resources

Oklahoma State University



If you are buying land in a residential or commercial area that cannot be connected to a municipal or city sewer system, you will need an on-site septic system to treat wastewater.

Decisions that pertain to on-site septic systems in Oklahoma are based on soil properties in the area of interest.

You have to investigate before you invest!

Important Note: This material is meant to be a septic systems guide for initial screening of potential properties to buy. Before you decide to purchase a property, contact your local Oklahoma DEQ office at:

<http://www.deq.state.ok.us/ecl-snew/localOffices.htm>

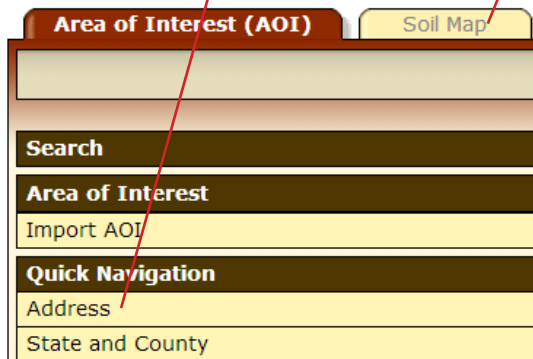
How to go about your investigation?

1. **Open up an internet browser** and access the Web Soil Survey (WSS) by going to: <http://websoilsurvey.nrcs.usda.gov>. Click "Start WSS" to begin.






2. Locate your Area of Interest (AOI)

- at the left side of the webpage, click "Address" under Quick Navigation.



- type-in the address of your interest and click **View** to open a page showing a map that include your AOI.

- Click  and zoom-in to the location of your AOI.

- Click  or the  and establish the boundaries of your AOI on the map.
- After setting boundaries, click "Soil Map" to view boundaries of soil mapping units.
- A page, like the one below, will show the names and percent area covered as well as the location of each soil mapping unit in the AOI.

3. Extract information about the soil mapping units in the AOI.

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
45	Renfrow silt loam, 1 to 3 percent slopes	0.3	29.4%
KrdB	Kirkland silt loam, 1 to 3 percent slopes	0.7	70.6%
Totals for Area of Interest		1.0	100.0%

- Click the **Map Unit Name** to view the **Map Unit Description** of each soil mapping unit.

Payne County, Oklahoma	
45—Renfrow silt loam, 1 to 3 percent slopes	
Map Unit Setting	
Landscape:	Uplands
Elevation:	800 to 1,300 feet
Mean annual precipitation:	34 to 39 inches
Mean annual air temperature:	57 to 60 degrees F
Frost-free period:	200 to 215 days

- Scroll down to particularly focus on the following site and soil properties:
- **Slope:** if less than 10 percent, the system may require more advanced wastewater distribution system.
- **Depth from surface to restrictive feature and to water table:** preferably less than 48 inches.
- **Frequency of flooding and ponding:** this should be "none." **If there is potential for flooding and ponding, the area should NOT be used for onsite septic systems.**
- **Drainage class:** Preferably "Well-drained."
- Devote particular attention to description of **Typical Profile**.

Typical profile

0 to 9 inches: Silt loam
 9 to 16 inches: Silty clay loam
 16 to 31 inches: Clay
 31 to 80 inches: Clay

- Determine the **soil texture classifications** in the upper 48 inches.
- **Important Note:** Soils can be highly variable. Texture classes listed in the WSS should be viewed as best estimate.

4. Identify the finest soil texture class (or the soil with greatest fraction of fine separates) in the upper 48 inches.

How do I know which textural class is the finest? Use the Textural Triangle.

Trends in the Textural Triangle

- Soil textural classes at the top of the triangle are finer than those at the bottom.
- Soils at the right are finer than those at the left.

