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BUYER INFORMATION PACKET

Soil & Septic Brief

County Road 4307, Bowie County, Texas **61.1 acres** **6 lots** of about 10 acres

THE SHORT VERSION

Plan on a septic system designed by a professional.

According to the USDA soil survey, the whole property sits on Ashford clay: heavy clay on nearly level ground that drains slowly and stays wet near the surface from December through April. The USDA's Texas ratings mark it **very limited** for every common septic design, conventional and aerobic alike.

Very limited does not rule out a septic system. In the USDA's words, the limitations call for special design or more expensive installation. A licensed site evaluator or engineer tests the soil on the lot, picks the system and designs it before the county issues the permit.

0%
rated well
Every soil on the property is rated very limited for all five septic designs under the USDA's Texas ratings.

No flooding
recorded for the lot soils
No flooding or ponding recorded for the soils on the property, and outside FEMA's 100-year flood zone (Zone X).

100%
of the land at 1% slope or less
Nearly level ground. Rain soaks in and runs off slowly.

Dec to Apr
wet soil near the surface
The USDA records a wet layer from about 6 inches deep in those months.

Aerial view and soil types



Rated well for a conventional system (none here) Very limited for every system
- - - 656 ft (200 m) around the property. White lines and numbers are the lots. Thin lines separate soil types.

Location

Center coordinates	**33.327511, -94.683324**
Road frontage	**33.327387, -94.685350**
Address	**County Road 4307, De Kalb, TX 75559**
County	**Bowie County, Texas**

Soils on the property

5 over 99% · 4 under 1%

5: Ashford clay, 0 to 1% slopes	99.6%	Very limited
4: Annona loam, 1 to 3% slopes (corner of lot 1)	0.4%	Very limited
46, 48: Woodtell and Wrightsville-Raino soils next to the property		Very limited

Best-rated septic option for each soil under the USDA's Texas ratings.

Common questions

Can a home here have a septic system?
The permit is decided on the lot, not from a map. The site evaluator or engineer designs a system the county can approve. Budget for a designed system, not a standard drain field.

Does the clay matter for building?
Clay like this swells when wet and shrinks when dry. Ask your builder about a foundation designed for it.

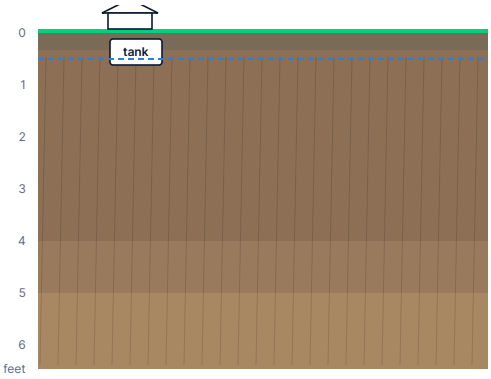
Share of each lot on soils rated well for a common septic system

Lot 1	Lot 2	Lot 3	Lot 4	Lot 5	Lot 6
0%	0%	0%	0%	0%	0%

USDA NRCS soil data (SSURGO, TX037), statewide release published October 1, 2026, retrieved November 20, 2026. Imagery: USDA NAIP, flown in 2022 before the timber on the property was harvested.

What the soil looks like underground

Typical layers of Ashford soil, which covers the property. Built from USDA data, not from an excavation.



Clay
0 to 4 inches, about 45% clay. Sticky when wet, hard when dry. Water soaks in slowly.

Seasonal wet layer
Wet soil from about 6 inches deep, December through April. The evaluator checks its depth in the test holes.

Heavy clay
4 to 48 inches, about 68% clay. Very slow water movement. Swells when wet and cracks when dry.

Clay
48 to 80 inches, 52 to 63% clay. Very slow water movement.

No bedrock or hardpan
No rock layer in the top 6.7 feet.

Can this land support a septic system?

USDA ratings developed for Texas, for Ashford soil (over 99% of the property). Map unit composition: Ashford 90%, Wrightsville 5%, Bryarly 5%. Annona loam (under 1%) carries the same ratings.

Conventional absorption field Septic Tank Absorption Fields (TX)	Very limited	The classic buried gravel drain field. The most common and least expensive system where soils allow it.
Gravity distribution Septic Tank, Gravity Disposal (TX)	Very limited	Drain field fed by gravity, with no pump.
Leaching chambers Septic Tank Leaching Chamber (TX)	Very limited	Drain field with plastic chambers instead of gravel.
Aerobic unit with spray Disinfection, Surface Application (TX)	Very limited	Treats and disinfects the water, then sprays it on the lawn.
Drip irrigation Subsurface Drip Irrigation (TX)	Very limited	Treated water goes to shallow drip lines under the lawn.

What very limited means. The USDA uses it when a soil has features that are unfavorable for a use and that generally call for special design or more expensive installation; it also expects more maintenance. Here the features are the heavy clay, the very slow water movement and the wet season. The USDA's national drain-field rating agrees. The on-site evaluation, not this map, decides the system and the permit.

Septic permit steps in Bowie County, Texas

Permitting authority: Bowie County, a TCEQ authorized agent, through its Fire Marshal and Health Inspections Department (bowiecounty.org). Inside some city areas the City of Texarkana issues the permit.

1

Site evaluation
A TCEQ licensed site evaluator or engineer digs at least two test holes and picks the system type.

2

Permit application
Submit the application and design to Bowie County before construction.

$325, single-family home

3

Aerobic systems only
A maintenance affidavit is recorded with the County Clerk, plus a two-year maintenance contract (state rule).

4

Build and inspect
A licensed installer builds the system, and it is inspected before it is covered.

Fee published by Bowie County as of October 13, 2020 ($425 commercial); it may have changed, so confirm before budgeting. By state rule, a complete application is decided within 30 days.

Sources: USDA NRCS SSURGO, survey area TX037, Bowie County, Texas; statewide release October 1, 2026: map units 575296 (5, Ashford clay) and 575286 (4, Annona loam). Property lines from the conceptual subdivision layout (not a survey). FEMA National Flood Hazard Layer (panel set 48037C); Bowie County Fire Marshal and Health Inspections Department; TCEQ, 30 TAC Chapter 285. Imagery: USDA NAIP 2022.
Disclaimer: for informational purposes in connection with a land sale. Not a site evaluation; does not guarantee permit approval or any specific septic system. USDA soil maps are landscape scale and soils vary within a property; confirm on site with a licensed professional.