

# The Daily Courier

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## **Alternative Septic Systems Require the Pros**

By Ken Hedler, *The Daily Courier*

Septic tanks and leach fields come with the territory for home-owners who cannot hook up to a municipal sewer system.

New homeowners need to find out from the start whether a conventional septic system will suffice or if they need an alternative one, which costs more, according to the experts. Conventional systems cost about \$6,000, and alternative ones cost \$9,000 to

\$13,000, which includes the installation, Tim Robbins, owner of Robbins Engineering in Prescott, said.

"You need an alternative system when a conventional tank and leach field cannot be used because of lack of suitable soil or other conditions," said Jeff Meek, environmental unit manager for Yavapai County Development Services. "The critical thing for both of these (types of systems) is the on-site discovery



*Don Nelson, left takes a filtration section from Lou Brown of Southwest Alternatives as they install an alternative septic system in Crossroads Ranch.*

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work. Before you can apply for a wastewater system, you have to do a site investigation determining the limiting conditions of the site, if any.

Expanding on Meek's comments, Robbins said, "If you put in a standard system, that is the way (to go)," Robbins remarked. "You have to demonstrate to the county that you dug two test holes. And if you can dig 12 feet without hitting excessive rock, and it perks under 120 minutes (of water dropping) per inch, then you can have a standard septic system."

Anyone may apply to the environmental unit for a permit for a conventional or alternative system, Meek said. His office inspects conventional systems.

However, his office requires engineers or sanitarians to inspect alternative systems and submit the as-built plans to the unit.

The 21 types of alternative systems include aerobic, engineered pads and man-made wetlands, Meek said. His office supplies lists of engineers and urges homeowners to ask for references before hiring an engineer or a sanitarian.

"You want a low-maintenance system, and you want a cost-effective system," Robbins said.

He said that he designs constructed wetlands and engineered pad systems.

The wetlands use three forms of fluid removal, Robbins said. They are transpiration (from moisture that plants absorb), evaporation (into the atmosphere) and infiltration (from waste seeping into the ground).

"Yavapai County has been more progressive in allowing" the constructed wetlands, Robbins said.

Robbins said the engineered pad system uses geo textiles.

"It is somewhat of a filter, but it provides a lot of surface area where you get biological treatment," Robbins said. "In addition to the pads, the pads sit on top of sand, which provides a lot of surface area."

Like Robbins, registered sanitarian Steve Daldrup in Chino Valley designs engineered pads in a sand-lined trench. He uses products from the Eljen Corp. of East Hartford, Conn., which requires contractors who install the pads to be certified by the company.

The Eljen systems remove 95 to 99 percent of the contaminants, Daldrup said.

"They are very popular because they tend to be cheaper and easier to install," he said. "I'd say three to five days is average" time that it takes to install.

Daldrup said that he requires homeowner clients to supply a topographic map of their lots, and plot and floor plans.

"We do an on-site investigation, which is similar to a perk test," he said.

Daldrup explained that a septic system must be at least 10 feet from a house to prevent the house from settling. He added 99 percent of the systems he designs are gravity-fed, instead of using pumps and other equipment.

Both Daldrup and Robbins design alternative septic systems on a computer.

"I started out hand-drawing them, and it is too much trouble," said Daldrup, who formerly worked for Development Services. "It is a lot easier on a CAD (computer-aided design) program."

CAD is much more accurate than hand drawing because the program enables him to maneuver the lines, Daldrup said.

Daldrup and Robbins do not install alternative systems, but they refer their clients to contractors.

"I represent the homeowner," Robbins said. "They give my design to a contractor and get three or four bids. I do the inspection, testing and certification. I represent the homeowner to ensure the contractor installs it per my plan."

A Prescott-based Eljen distributor also supplies lists of engineers and certified contractors. Lou Brown, president and owner of SouthWest Alternatives Inc., said she certifies contractors in Arizona for Eljen.

Brown, who is married to a contractor who installs alternative systems, said people who move to the tri-city area from bigger cities have "never been on a septic (and) don't have a clue."

Few homeowners know that septic systems require routine maintenance, such as pumping every three to five years, and inspecting and cleaning effluent filters once a year.

"If you never pump your septic tank, it will give you problems," Brown said.

She referred homeowners to her website, [www.swalternatives.com](http://www.swalternatives.com).

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**Contact Eljen at: [Eljen.com](http://Eljen.com)  
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