

Critical Considerations for Converting Your Septic Tank to a Cistern

Saturday and Sunday, May 3 & 4, the 501(c)3 nonprofit American Rainwater Catchment Systems Association (ARCSA - www.arcsa.org) will return to the Florida Keys for the first time since 2009, to offer another two-day rainwater harvesting workshop, which can lead to designation as an Accredited Professional. The registration fee includes detailed training, the latest edition of a comprehensive rainwater-harvesting manual and lunches.

The Florida Keys have a rich history of harvesting rainwater. Before the 1942 pipeline from Florida City was commissioned, cisterns and wells were the only water source. Today, because our water supply is limited, we are encouraged by the Florida Keys Aqueduct Authority to conserve utility water and harvest rainwater. When connecting to a central sewer system, everyone must either abandon their septic tank, or—as described by Florida Administrative Code, Section 64E-6.011—convert your intact single-family-home septic tank to a non-potable rainwater cistern. Consult the Florida Department of Health (FDOH) at 305-809-5670 for instructions and permitting requirements.

While the process of emptying, cleaning and sanitizing a septic tank and installing a pump is relatively simple, a septic tank converted to a cistern will be used very differently, which requires close attention to four critical aspects. I use the acronym B.L.O.B. as a mnemonic device for Bugs, Labeling, Overflow and Buoyancy. While these concerns may seem daunting, they are not. Many have already converted their tanks.

Bugs: Because previously buried and sealed septic tanks will now have exposed openings for inflow, pumping and overflow, one must be careful to exclude mosquitoes and other fauna.

Labeling: The water from your converted septic tank is non-potable and should be labeled so.

Overflow - Typical residential septic tank inflow is small - perhaps 10 gallons per minute and maybe 100 gallons per hour. A one-hour south Florida rainfall can exceed four inches. For that hypothetical hour, if a 600-gallon tank is collecting from a 1,000-square-foot roof, the total inflow would be 2,400 gallons. An empty cistern would be filled in 15 minutes, then 1,800 gallons of overflow must be properly infiltrated to avoid erosion and local flooding. Don't plan on using the drain field for overflow. The Florida Code requires disconnection of the drain field from the tank. Using the drain field illegally represents a serious back-flow health risk, since a drain field cannot be adequately decontaminated.

Buoyancy - Operational septic tanks are always full and will not float, but an empty, unballasted and untethered tank—yes, even a concrete one—can float like a lobster buoy.

The ARCSA workshop in Key West will address general rainwater harvesting principles as well as these important converted-septic-tank peculiarities. Register at www.arcsa.org. \$100 discount for the first 15 Keys residents. For workshop details, contact [Tim Pope](#) at 360-317-4192 or [Alison Higgins](#), Key West Sustainability Coordinator at 305-809-3726.

John Hammerstrom, Past President and current Director, ARCSA
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