

On saving water with cisterns and barrels



Permaculture
in Practice

by Nate
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A landmark water-harvesting law unanimously passed the Santa Fe County Commission recently. New construction with 2,500 square feet or more of heated area now must collect precipitation in a cistern. The harvested water must also be connected to a drip-irrigation system for use in the landscape.

For buildings under 2,500 heated sq. ft. the county now requires rain barrels under every canale and downspout and/or the use of passive water-harvesting techniques like pumice wicks and swales.

The law, which affects most of Santa Fe County outside of the city and its extraterritorial zone, is an important start down the road to sustainable growth. Although some of the technology and terminology may seem foreign now, systems that provide water for landscapes soon will seem like second nature to people in the arid Southwest. By that time filtration systems that reuse precipitation throughout a structure's plumbing system will be the cutting-edge step that will finish our inevitable transition to aquifer independence.

At any rate, kudos should go to the commission and its hardworking staff for taking on a leadership role on the water issue.

According to the new law, cisterns shall be sized to hold 1.5 gallons per square foot of roofed area for commercial buildings and 1.15 gallons per square foot of roofed area for residential buildings. In average years this should translate into savings of about 20,000 gallons of water per year per structure on the small side of the scale.

One change that occurred in the 11th hour, just before the commission voted, was that the language in the resolution was amended to read "2,500 square feet of heated area" instead of the "3,000 square feet of roofed area" that staff had proposed. At first this might not seem like a big deal, and in the scheme of things perhaps it is not, but the seemingly meaningless change will affect the look

of structures that are built in the county in interesting ways.

Both versions have the effect of getting affordable and middle-income housing off the hook when it comes to cistern installation, which is a good thing since cistern systems are expensive, and, as everyone knows, housing prices here are out of control. But one can easily predict that the number of four-car "garages" and unheated "studios" will increase in the county - only to be converted into heated area after the inspectors have come for the last time.

With the focus on heated area, one can also predict that the percentage of new two-story houses will be less than would have been the case if the deciding factor were roof area. Architects and builders are a savvy bunch. Who among them wouldn't see the need to keep roof square footage low and living space area high?

One might think that this translates into more urban sprawl, but the law also requires all subdivisions to "collect a minimum of 85 percent of all houses' roof drainage into cisterns to be reused for landscape irrigation on each lot." Since the size of the cistern system still depends on roofed area, the new law simultaneously encourages multistory housing, the antithesis of sprawl. That is, from an economic standpoint, once you realize that you will have to install a cistern system, the natural reaction will be to install the smallest, least expensive system.

There will be other complications surrounding the new law. For example, in order to comply with the requirement that each system will have an "outflow outlet" and simultaneously have "all piping shall be underground and shall be at a minimum depth of 24 inches to prevent freezing," some lots will simply not slope enough to allow for compliance.

Even with the laws quirks, we, as a community, should be proud that our elected officials are taking precipitation seriously. No longer will we be wasting so much of this precious resource.

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