

Posted on: December 19, 2012

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## Rainwater Management

The Three Towers project is pre-plumbed for rainwater use in toilets.

By [Jennifer Goodman](#)

Located in the heart of wine country near Dundee, Ore., Three Towers' 3.5-acre pinot noir vineyard is sustained through water supplied from the house's roofs. To help irrigate the young vines, which need extra water for the first three years while their roots develop, roof runoff is collected and stored in a 5,000-gallon above-ground tank until needed for irrigation.

The simple system diverts the rainwater from the concrete roofs through downspouts into a three-inch PVC pipe that runs to the tank. Media filters are located at each downspout and a secondary filter is located at the entrance to the storage tank, allowing fine particulate to settle out prior to entering. Excess rainwater is diverted into a bioswale on the property. "Just one inch of rainfall fills the tank up halfway," says project manager Carson Benner. "We get close to 50 inches of rain a year."

The tank's variable-speed pump is activated by a pressure switch that senses demand. The irrigation system is programmed to drip irrigate the vines every three days during the summer, Benner says. Once the roots have taken hold, a low-flow irrigation system on a timer will suffice.

Project planners also prepped the house for the day when rainwater can cost-effectively be used for more than just irrigation. The house is pre-plumbed to allow rainwater use in toilets if Oregon building code permits it in the future.

"Oregon building code is very restrictive regarding the quality of water that is required to flush toilets, until that changes or a less expensive filtration system becomes available this was a good option for our clients," says Benner.

A separate PEX line serves the house's three toilets and runs to the basement so that when the homeowners decide to install a filtration system, rainwater could be easily plumbed to run directly to the toilets. "We feel that rainwater use inside a home is one of these frontiers that's going to quickly change," Benner predicts. "The code right now is written so that the water out of your toilet needs to be clean enough to drink, which is sort of silly."



A 5,000-gallon storage tank in the back of the house holds roof runoff to be used for irrigation