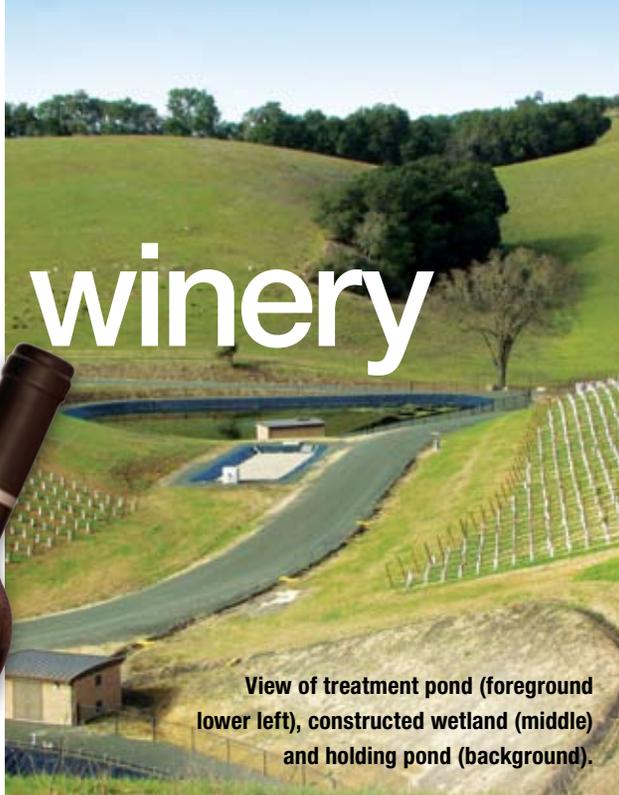


water-wise winery



View of treatment pond (foreground lower left), constructed wetland (middle) and holding pond (background).



The estate's captured rainwater system.

Since first discussing plans to build Niner Wine Estates, a family-owned winery on California's Paso Robles Westside that opened in the spring of 2010, both owner Richard Niner and winemaker Amanda Cramer have considered sustainability to be an issue of great significance.

By Allison Dana Addison

New wine estate adopts methods for conserving and recycling water

"I took the position with Niner Wine Estates for the company's commitment to wine quality and its potential to set a new standard in environmental stewardship," said Cramer, who was awarded Winemaker of the Year at the San Francisco International Wine Competition in 2010. "Our team is green at heart, and it is refreshing to work for a company and for owners who allow us to apply that philosophy in the workplace."

Niner Wine Estates hired Pults & Associates architect Tim Woodle to design the most environmentally conscious winery possible and engineer Tom Bower as project manager to oversee the construction and implementation of elements that would assist in U.S. Green Building Council Leadership in Energy and Environmental Design (LEED) certification. The result is a testament to the power of creative design and conservation of natural resources.

Beyond the environmentally friendly building materials used to construct the winery, the energy-efficient design of the buildings and the plans to gain LEED certification in 2011, Niner Wine Estates is also extremely conscious of water, its uses and how not to abuse it.

Rain Capture

The winery's west-side location provides decent rainfall, but a less-than-adequate groundwater supply. With the help of local engineer The Wallace Group, Niner Wine Estates was able to develop a unique system to capture and collect the rainwater from the site's nonpermeable surfaces, most notably the roof. The roof has a rainwater catchment system that collects 36,000 gal of water for every inch of rainfall, sending it down massive gutter pipes (which sounds awesome from inside the winery). The first flush off the roof can be diverted to storm drains if need be, but currently it is being sent to the pond in an attempt to save every drop.

"One of my biggest pet peeves in the winery is when I see someone using gallons of water to chase a single grape skin down the drain," Cramer said. "I say, 'Pick it up with your fingers!'"

Treatment System

In addition to doing what it can to reduce its water use, the Niner Wine Estates team is recycling 100% of the winery wastewater by putting it through a

three-part system: treatment pond, constructed wetland and holding pond.

The treatment pond has subsurface aerators, so no traditional paddle-wheels throw dirty-looking water every which way. This cuts down on evaporation losses as well as odor. It also is easier on the eyes, even though it is tucked away in a spot interior to the property, in response to a request from the neighbors prior to construction. The second part of the three-part system is currently a rectangular gravel pit with a sloped bottom, which eventually will be planted with water-loving plants whose root systems will support microbes that consume leftover nutrients in the water. Currently at 20% of capacity, the winery is not yet treating enough water to sustain the natural plant life. Water from the final holding pond is used to irrigate all of the landscaped areas and a portion of the vineyard as well as a reserve for fire protection.

Landscape Irrigation

Water conservation is an important practice Niner Wine Estates wanted to employ in its everyday operation, both inside the winery and outside. Most of the landscaped areas are natural grasses that require no irrigation. The remaining landscaped areas use native and adapted species with efficient drip irrigation, reducing overall water demand by nearly 90% when compared to traditional landscape design.

The water that is used for irrigation is provided entirely by the captured rainwater from the roof system and recycled process water. Zero gallons of potable water are used for the landscape—a savings of nearly 1 million gal of water every year. The remaining nonpotable water is used to irrigate the vineyards.

The end result is an efficient and elegant landscape that contributes greatly to the beauty of the estate. Water-conserving sinks, showers and toilets are installed throughout the three buildings that make up Niner Wine Estates as well, resulting in a 30% savings in indoor water use. **WWD**

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ARTICLE SUMMARY

Challenge: Niner Wine Estates sought a way to become more sustainable and achieve LEED certification.

Solution: The winery hired an architect to design sustainable elements, which include a three-part wastewater recycling system. The system utilizes a treatment pond, constructed wetland and holding pond.

Conclusion: Zero gallons of potable water are used for the landscape, yielding a savings of 1 million gal of water per year. The efficient landscape is also aesthetically pleasing.