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Installation of floor frame.

Wine Country, Anyone?

Young dealer delves into Japan's koi culture

by Kent Wallace,
Living Water Solutions

When my phone rang in May 2023, the caller ID showed Yountville, California. When I first saw the number, I laughed to myself, because my wife Janon and I have been to Thomas Keller's French Laundry restaurant several times, and my first thought was, jokingly, they were calling to confirm a reservation!

I regularly have obnoxious responses to cold sales calls just for sport, and this was no different. "Hi, I assume

this is the French Laundry and you're calling to confirm our upcoming reservation?" is what popped out of my mouth. That was followed by a pause on the other end and then a man's voice saying, "Well, no, I was calling to possibly hire you."

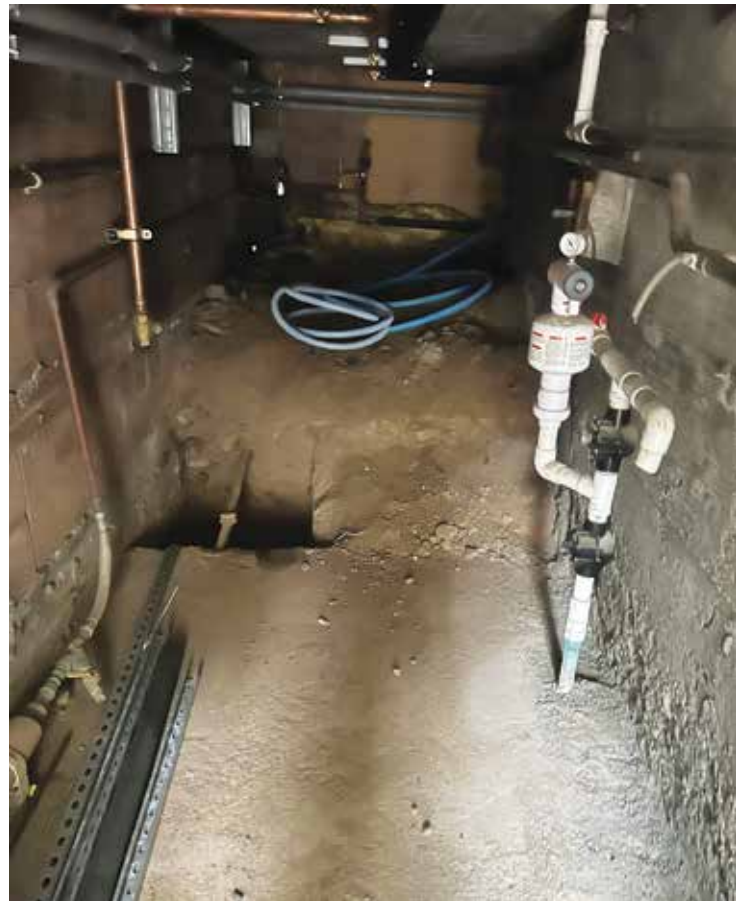
We both laughed, then he introduced himself as John Wargo of Wargo Construction. He was working on a project in Calistoga that included a koi pond.

Welcome Home

The project was a complete remodel of a 150-year-old bed and breakfast in Calistoga, originally called the Pink Mansion. Its new name would be Okaeri, which is a shortened version of

SERIES:
Best Pond Practices

This is an installment of an ongoing, multi-part series. Be sure to watch for further installments in future issues!



There was an existing 10,000-gallon indoor swimming pool the owners wanted to convert into a koi pond. The pond was to be under the dining room floor, viewed through glass panels randomly installed throughout the floor.

the Japanese okaeri nasai, which means, “welcome home.” Okaeri is what you say when you leave or come home and is one of the common expressions for saying goodbye or welcome.

There was an existing 10,000-gallon indoor swimming pool the owners wanted to convert into a koi pond. The pond was to be under the dining room floor, viewed through glass panels randomly installed throughout the floor. A 10-by-10-foot open section in the center of the floor over the pond was to be surrounded by a glass panel railing with a tree planted in a large ceramic pot in the center. John had been working on the suspended floor frame and now needed help with filtration.

I flew down to look at the scope of the project and quickly realized there was no room for filtration anywhere above water level or outside the building. The outside of the pool shell was exposed underground

with limited area to work in. There was a space of 6 or 7 feet between the pool shell and the outside walls surrounding it. This space was half underground and half exposed to the front under the main floor, which meant we could build something that surrounded the structure with the only issue being it was below water level.

Filtration Integration

The pond was designed as a still pond or reflecting pool, which meant I needed to oxygenate the water outside the pond and return oxygenated water to the pond. I decided to use overflow regulators from the bottom drains in the similar concept I had used before. Three LWS vertical pond return drains would flow to the corners of the deep end wall and then up to the regulators. The overflow regulators would establish the pond level while allowing the full volume of the pumps to

Open space (top, left) between pool shell wall and outside wall below water level. Drawing (middle, left) of the overall system. Drawing of the inside wall (bottom, left) with the overflow regulators.



Drains (above, left) in first chamber. Weir plate (above, right) and pre-filter chamber.

remove water from the bottom, flowing down to the prefiltration chamber in what would become the filter room. The skimmer would be a standpipe at the same level as the overflow regulators flowing down to a suspended basket in the prefilter. The three overflow regulators and the skimmer standpipe assembly would be encased in concrete at the end of the pond, keeping the pond water surface separated from the units.

The filtration system would be an old-school chamber design mixed with some new inspiration. The bottom drains flow into the left end of the prefilter chamber and are directed up with standpipes as in a radial separator. A divider plate directs the water downward at a slower rate toward the

bottom of the tank, where it travels across the chamber and over another divider plate with a weir flap at the top. This mimics the path of a radial separator, allowing only the cleanest water removed of heavy solids to flow over the weir into the prefilter media chamber.

The prefilter media consists of Matala cubes that float at the top of the chamber. The pond water flows down through the media, passing through a divider plate and out two 6-inch lines around the corner into the aerated media biofilter. The settlement chamber and the prefilter chamber each have bottom drains leading to a discharge manifold. The pre-filter has an air-blower cleaning manifold

and upper rinse drain for cleaning the media. The B-37 skimmer basket is mounted on the 4-inch pipe coming through the wall above the settlement chamber, with the basket partially suspended in the water. I molded a slide assembly with a locating pin to easily remove the basket for cleaning.

Around the corner from the prefilter chamber, I placed a concrete platform over the two 6-inch transfer pipes for the three W. Lim Wave 1 pumps. This allows for easy access and maintenance.

The aerated biofilter chamber is filled with Matala cubes, as was the prefilter. The 6-inch lines flow water up into the center of the chamber and out through two custom-built, 6-inch



Suspended (above, left) skimmer basket in settlement chamber. Air pumps (above, right) and pond pumps.



Airated biofilter chamber (top, left) with stainless screens. Aerated chamber (left) with media. Polyurea coating (above) inside tanks.



One interesting note about this project is that there was no edge treatment or aesthetics to deal with on my end or that of the pond construction crew. The visual impact of the pond is largely the dining room it's situated in.

stainless-steel outlet screens that prevent the media from flowing back into the lines. The media is aerated with two 120-lpm Medo air pumps and aeration tubing manifolds mounted to the divider plate.

The three W. Lim pumps pull water from below the divider plate with two of them pumping to a manifold assembly connected to the three vertical pond return drains. The third pump sends water through one of my 86-watt UV lights and a manifold connected to the

four 2-inch returns at the far end of the pond. This creates a directional pond flow from the shallow end to the deeper end, with the vertical pond returns creating a toroidal circulation in the deeper end above the bottom drains.

Three 45-lpm Medo air pumps supply the aeration rings on the VPR drains and are set with a timer to come on twice a day. All five pumps, two Medo 120s and three Medo 45s, are mounted on a shelf connected to the end of the prefilter chamber above the

pond pumps.

The completed system is compact and easy to access, just inside the entrance door to the filter chamber area.

Final Touches

Paul Parszik of Artizan Aquatics drove up to apply the polyurea coating and did an amazing job. The interior walls and floor of the filter chambers were coated as well.

I arrived for the second time in



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September 2024 to check over the system and help get it running, I was pleasantly surprised at how accurately every detail was constructed. Randy Williems of Paradise Pools handled all the major plumbing, drain placement and concrete work, doing an amazing job. He took my 3D SketchUp drawings and brought them to life perfectly.

The final test was turning everything off to observe the water level in

the filter chambers when the power goes down or the system is shut off for maintenance. The water rose about 4 inches and stopped. This is the volume of water in the pond above the overflow regulators and skimmer stand-pipe. When the pumps come back on, everything self-adjusts and works as normal.

Once everything was running, the final piece was the autofill. It's

mounted on the left end of the prefilter chamber, just above the bottom drain inlets where the water is closest to pond level.

One interesting note about this project is that there was no edge treatment or aesthetics to deal with on my end or that of the pond construction crew. The visual impact of the pond is largely the dining room it's situated in, and that was left to Meredith Rebolledo

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Go to <https://www.pondtrademag.com/2024-water-artisans-of-the-year-awards-entry-form/> for official rules and entry form.

**Contest deadline is
November 30, 2024.**



Over-flow regulators under floor with polyurea.

of Meredith Rebolledo Interior Design. She did an amazing job of incorporating koi and lilly pad fabric in the backs of the bench seating and the curtains in the dining room. She placed white ceramic planters along the wall with plants in them above a mirrored insert over the seat backs to soften the wall and make the room appear larger.

I always enjoy working with a group of people with a vision and the ability to carry it out, even when my participation is largely invisible. ☺

About the Author



Kent Wallace was born and raised in Las Vegas. He spent most of his adult life in the automobile industry at independent shops and dealerships, including his own shop as a racecar fabricator at age 24. Then, in 2001, a neighbor asked Kent if he could build her a koi pond like the one Kent's father had.

From that point on, pond building became his new passion. That first pond he built was submitted to Better Homes & Gardens magazine and won Best Courtyard Nationwide in their special-interest publication.

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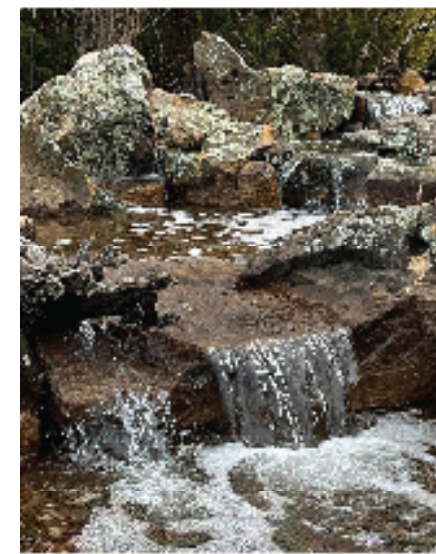
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