Inside: Stephanie Rose on Small Projects

WaterShapes

Design • Engineering • Construction

Volume 7
Number 5
May 2005
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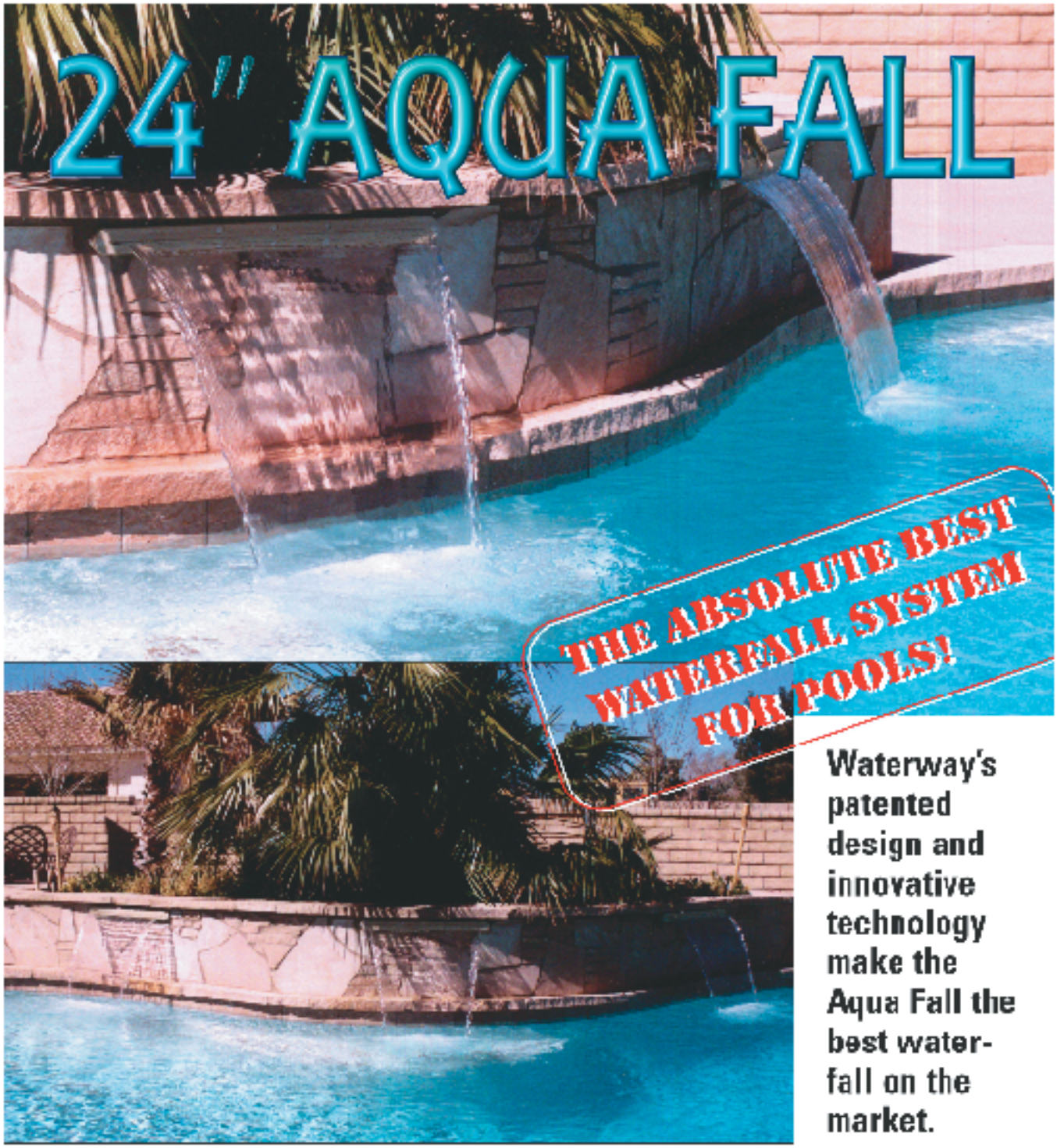

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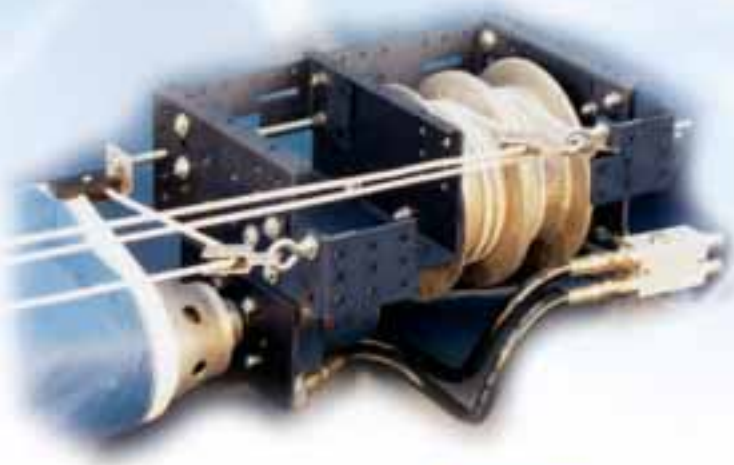

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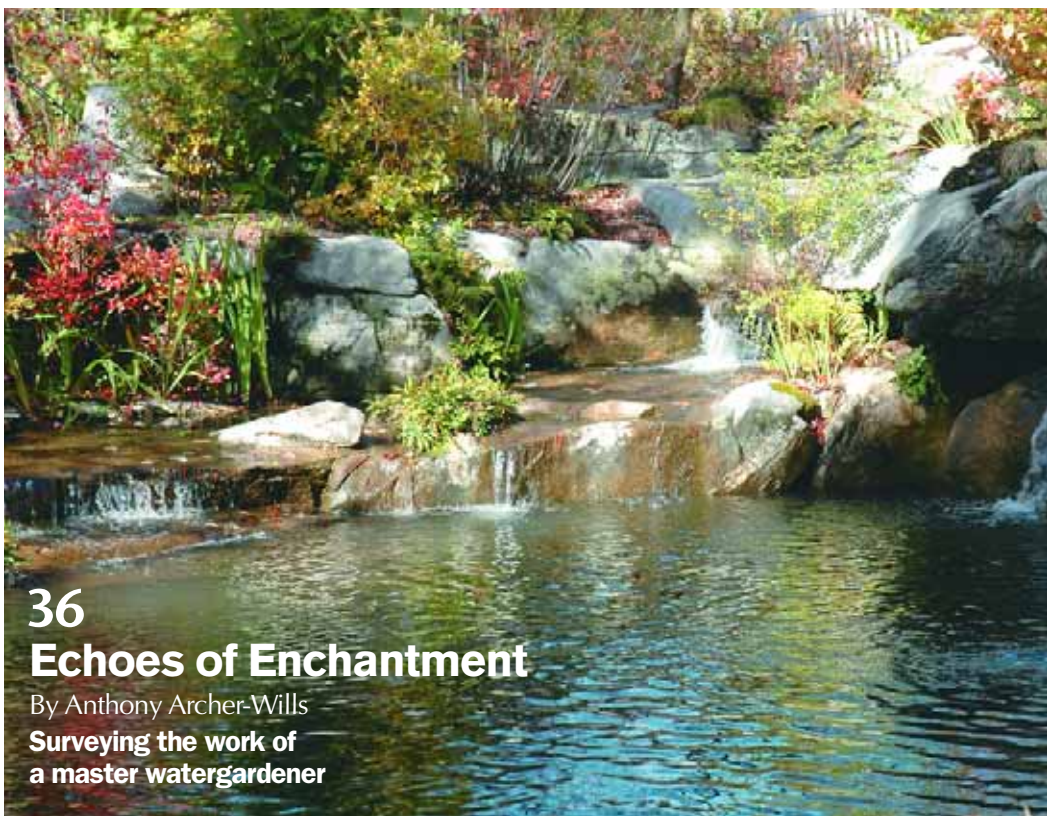

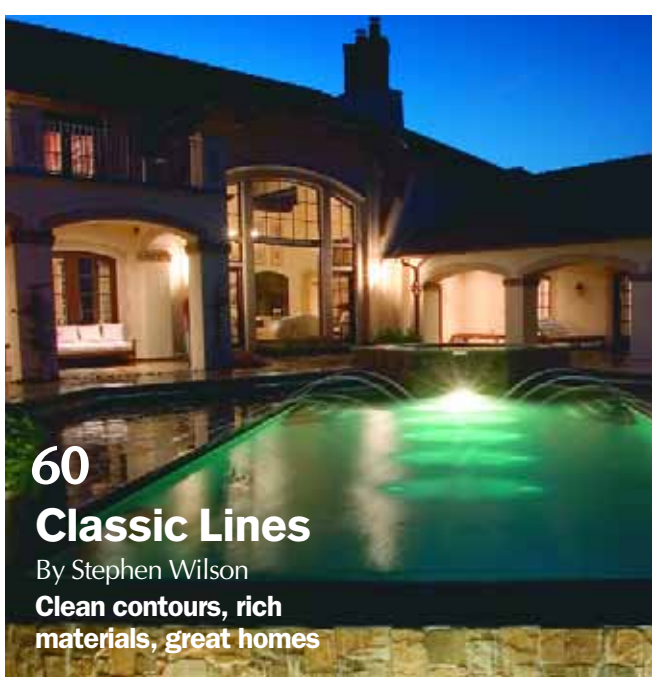

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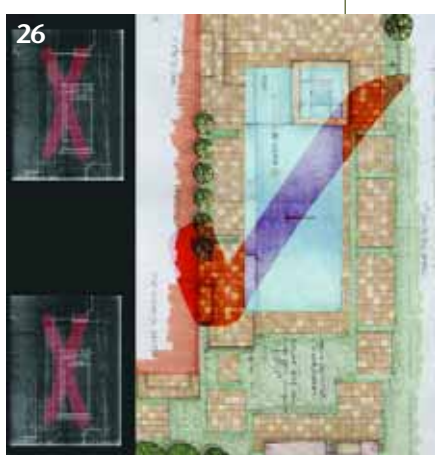

departments

Photo courtesy Anthony Archer-Wills, Copake Falls, N.Y.

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By Eric Herman

Music of the Moment

Sometimes it's the most ordinary experiences that yield the most sublime memories – the pleasant surprise, a beautiful view, the warmth of the sun after a dip in the ocean. For me (and I suspect I'm not alone), these experiences occur more often than not with some involvement of water.

Not long ago, for example, I was enjoying dinner with a friend at a particularly enjoyable Indian restaurant in Los Angeles. We ate terrific food, drank a great bottle of wine, were comfortable in a great ambiance and engaged in relaxed conversation.

As we entered, I noticed a small fountain trickling away in the corner of the dining room. It wasn't much, but it completely suited its surroundings. I also noticed the strains of an authentic Indian Raga playing softly over the room's sound system. It may strike some as unusual, but I've always enjoyed the sounds made by sitars.

As we were eating, the owner stopped by our table to say hello and ask how we were enjoying our meal, and I mentioned how much I liked the music. His face lit up, and he offered me an insight I'd never considered: "The tonality and rhythm has always reminded me of the sound of water," he said. "It seems to play right along with the fountain."

I listened to the music again with his observation in mind, and I couldn't help noticing an almost mesmerizing intermingling of the fountain's gentle splashing and the cascades of the musical tones. There was an order to the interplay, a distinct aesthetic experience and what seemed to me an obvious connection between the natural element and the human consciousness.

This revelation is nothing new, as music has often been inspired by the textures of nature. Antonio Carlos Jobim wrote songs while listening to birds singing in the forests above Rio de Janeiro, and Claude Debussy said he was inspired by the sounds of wind rushing through the meadows of Southern France.

I don't want this to get too high-flown, but my experience in the restaurant that night helped me see that watershaping is an art form that, like music, is quite often inspired by the dynamics of the natural world and also depends on the momentary participation and perception of the viewer/listener. When it all comes together, the experience is just as elevating and engrossing, whether it's the work of a musical composer or a watershape designer.

In this issue, we're proud to present a profound example of the artistic power of watershaping in the work of Anthony Archer-Wills, a true master of the use of water in landscapes. Beginning on page 36, you'll find "Echoes of Enchantment," in which he shares his formative water-related experiences as well as patterns of observation that form the heart of his works in water, rock and plant material.

His experiences don't involve music in a literal sense, but there's a poetry and rhythm to what he does that makes his work sing to us just the same. As I worked with him in preparing the piece for print, I was struck by the fact that, although he often works on projects with enormous physical scale and great complexity, it is the small details that capture his interest and form the core of his endeavors.

As is true of many accomplished watershapers, Archer-Wills is a devoted student of nature. If there's something that may set him apart, however, it is that he also plies his trade with beguiling wit, delightful whimsy and a sense of "enchantment" – to borrow one of his favorite words.

WATERSHAPES

Editor
Eric Herman — 714.449-1905

Associate Editor
Melissa Anderson Burress— 818.715-9776

Contributing Editors
Brian Van Bower David Tisherman
Stephanie Rose Mike Farley

Art Director
Rick Leddy

Production Manager
Robin Wilzbach — 818.783-3821

Circulation Manager
Simone Sanoian — 818.715-9776

National Sales Manager
Camma Barsily — 310.979-0335

Publisher
James McCloskey — 818.715-9776

Publishing Office
McCloskey Communications, Inc.
P.O. Box 306
Woodland Hills, CA 91365
Tel: 818.715-9776 • Fax: 818.715-9059
e-mail: main@watershapes.com
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May's Writers

Anthony Archer-Wills is a landscape artist, master watergardener and author based in Copake Falls, N.Y. Growing up close to a lake on his parents' farm in southern England, he was raised with a deep appreciation for water and nature – a respect he developed further at Summerfield's School, a campus abundant in springs, streams and ponds. He began his own aquatic nursery and pond-construction business in the early 1960s, work that resulted in the development of new approaches to the construction of ponds and streams using concrete and flexible liners. The Agricultural Training Board and British Association of Landscape Industries subsequently invited him to train landscape companies in techniques that are now included in textbooks and used throughout the world. Archer-Wills tackles projects around the world and has taught regularly at Chelsea Physic Garden, Inchbald School of Design, Plumpton College and Kew Gardens. He has also lectured at the New York Botanical Garden and at the universities of Miami, Cambridge, York and Durham as well as for the Association of Professional Landscape Designers and the Philosophical Society.

Sergio Furnari is a New York-based painter and sculptor who focuses much of his energy on hand-painted tile mosaics. Born in Caltagirone, Sicily, his talent was evident early on. He began drawing and sculpting at the age of five; at six, he took his first job, sweeping floors at a sculpture foundry. He spent the next six years working, learning and developing his artistic skills, then moved to New York in 1992, where he began creating metal sculptures and paintings. In 2002, he gained notice for his life-size replica of the famous 1932 photograph, "Workers on a Lunch Break," taken by an unknown photographer of laborers eating lunch on an I-beam

during the construction of the Rockefeller Center. His work can be seen at the National Museum of Industrial History, an affiliate of the Smithsonian Institution in Bethlehem, Pa., and is available in galleries around the country and in Europe.

Ron Lacher is president of Pool Engineering Inc., in Anaheim, Calif. A licensed civil engineer, he spent the first ten years of his career managing large-scale construction projects for a variety of governmental agencies before becoming a pool builder in Southern California. In 1992, Lacher founded Pool Engineering, which specializes in developing structural and engineering plans. Since then, the firm has provided structural documents and details for thousands of residential and commercial swimming pools. He regularly serves as a field expert for California's Contractor State License Board, insurance companies, homeowners and pool-construction companies.

Stephen Wilson is founder and owner of Star Pools, a builder of custom swimming pools and residential landscapes in Houston. Wilson's family operated a leading home-construction firm in Houston beginning in 1926. Growing up as part of the family business, Wilson graduated from the University of Houston in 1977 with a degree in business administration and additional coursework in painting and sculpting. With his lifelong interest and education in the fine arts, he moved into the design and construction of custom pools in 1990. Since then, Wilson's elaborate pool, spa and backyard designs have garnered several local and national design awards. He is a member of the Association of Pool & Spa Professionals and a graduate of the Genesis 3 Design School.

By Brian Van Bower

The Cutting Edge

One reason the pool stands out is the use of a knife-edge, deck-level perimeter-overflow treatment. We took this path to create a crisp, dramatic relationship between the deck and the water.

A couple months back, the National Association of Home Builders held its annual convention in Orlando, Fla. – a massive January affair that drew more than 120,000 attendees to view all manner of products falling under the broad umbrella of "home construction."

One of the annual centerpieces of NAHB's event is the New American Home program. Each year, select local contractors build a state-of-the-art home in the show's host city to put the absolute cutting edge of residential design and construction on display. During the convention, show organizers sell tickets for tours, and thousands of people tour the home. Once the tours are concluded, the home is sold and becomes a deluxe private residence – and a lot of money from ticket sales flows to charity.

I was fortunate enough to be asked to design the swimming pool for the home built in conjunction with the Orlando show and have been pleased to hear that the pool drew a fair share of attention during the tours. In fact, it will eventually be featured in an HGTV television special about the project.

the challenge

My participation began with a call from a pool builder, Michael Manley of Champagne Aquatech Pools in Orlando, who was already involved with the project and asked me to come aboard. He's a friend of mine, a quality builder, and I've done design work for him in the past. Shortly thereafter, I met with the general contractors, Goehring & Morgan, a builder of high-end homes in the Orlando area.

The home has a Mediterranean-style design in a relatively tight lot that offered only a boxed-in courtyard as a setting for the pool. The house abuts two sides of the courtyard. The third side is a wall, and the fourth is a roofed shade structure. Kim Goehring told me they wanted a beautiful pool in the space but also wanted to leave enough room so the courtyard could also be used as an entertainment area.

This led to an initial key decision to push the pool up near the wall, thereby maximizing open deck space adjacent to the shade structure. We also discussed using the pool to extend some of the architectural details found in the home (including its arches) as we worked toward a simple, striking design that had both a classic shape and a contemporary feel.

The pool is almost square, with contoured, radius corners and a large, shallow, semi-circular lounging shelf on the end closest to the shade structure. Opposite the shelf is an electronic-ignition gas fireplace/chimney structure fronted by a sheeting waterfall. The pool is finished in dark cobalt blue Kolorines tile provided and installed by Ray Corrall of Mosaicist.

To the best of my knowledge, this is one of the only all-tile pools in the Orlando area, which is somewhat surprising, and is apparently one of the few such watershapes in all of Central Florida. This makes me suspect that the striking tile fin-

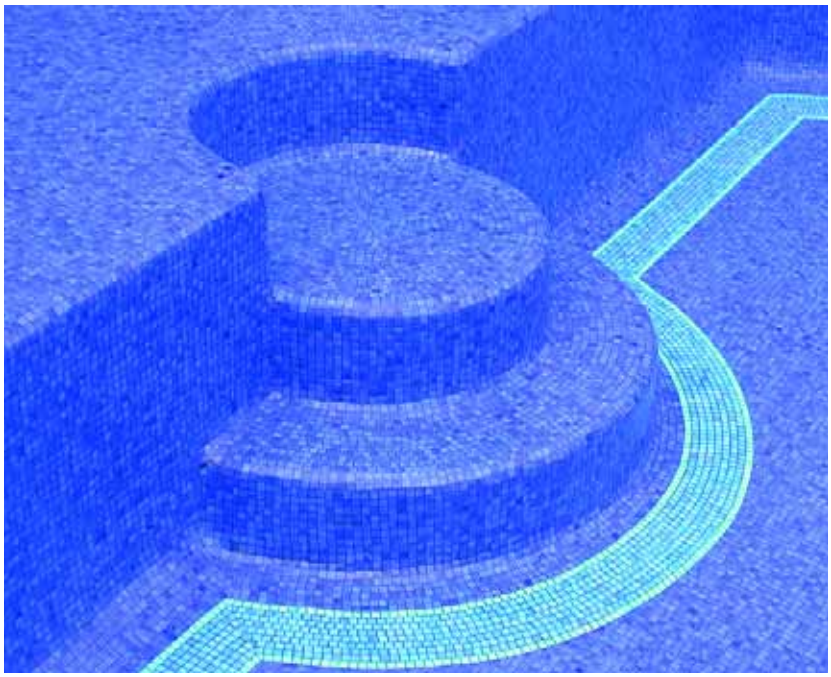
ish is one of the big reasons the pool received so much attention during the home tours.

Another reason the pool stands out is the use of a knife-edge, deck-level perimeter-overflow treatment. We took this path to create a crisp, dramatic relationship between the deck and the water. It was also in keeping with the state-of-the-art nature of the entire project, as these perimeter-overflow systems are the most difficult (and consequently least used) of all the available water-in-transit designs.

This approach allowed us to maximize the sense of the water's presence despite the small amount of space given over to the pool. The knife-edge approach also takes up less deck space than would a standard deck-level system in which water flows into a slot set back from the pool beyond submerged coping. As the general contractors told us, they wanted to preserve as much deck space as possible to leave room for the entertainment area.

As is always the case with any perimeter-overflow system, achieving the effect required careful hydraulic design and precise construction.

Continued on page 14



The all-tile interior is a key characteristic of this pool – and seems to have been one of the reasons it attracted so much attention among those who came to see the home.

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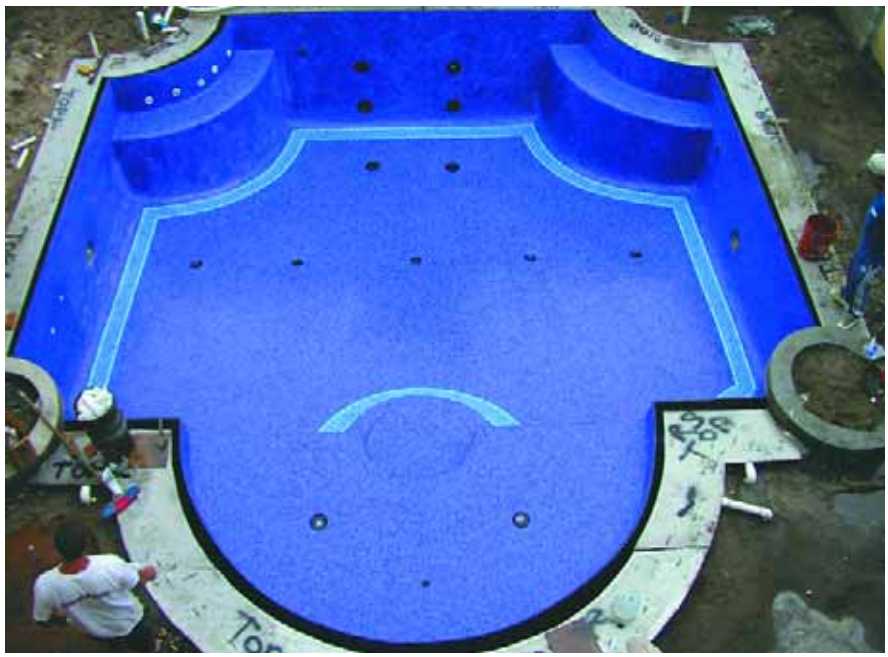
by the numbers

I bring up this project and this particular water-in-transit application largely because I've been asked by numerous people in the past few years to explain how such a system is designed, specifically with respect to accommodating surge capacity and the edge detail. Using this high-profile pool as a working example, I'll answer those requests here with a look at how I arrived at the critical calculations.

First, designing these water-in-transit systems is all about calculating and then designing to accommodate a given surge capacity – that is, the water we can reasonably anticipate will be going over the edge as a result of a spike in bather load or wind.

That surge capacity can be accommodated within a trough, gutter or catch basin. Alternatively, it can be handled within a sub-grade surge tank, which is the choice we made for this project.

To calculate surge capacity, you first



Small but finely detailed, this knife-edge, perimeter-overflow pool represents the state of the art – and is also the most challenging to build of all water-in-transit systems.

need to know the surface area of the pool. The Orlando vessel is 22-1/2 by 19 feet (that is, 427 square feet) with an additional semi-circular lounging area with a radius of 7-1/2 feet (that is, about 77 square feet). Thus, the pool has a basic surface area of 504 square feet. Of course, we lose a bit of that area with the corner treatments, so we can comfortably use 500 square feet as our surface area.

The size of the surge tank is determined by combining the surge capacity with the volume of water required to maintain the tank at a minimum operating level of one foot. As a rule of thumb, surge capacity may be taken as two inches of depth multiplied by the surface area – that is, 500 square feet multiplied by 7.5 (just a hair over the number of gallons of water in a cubic foot) divided by six to reflect the two-inch depth. Thus, at two inches over our 500 square feet, we need a total of 625 gallons of surge capacity.

A word of warning about these initial calculations: Surge capacity can vary greatly depending upon the overall size of the vessel, wind conditions and anticipated bather load. If specific conditions dictate, you need to think past this basic guideline!

Next, you need to factor in the collector tank's minimum operating level, this time multiplying the surface area by the full 7.5. In this tank (which is 4-1/2 by 5 feet), there are 168 gallons in a foot of depth. Adding this sum to the surge capacity for the pool, we determine that the tank needs to hold 793 gallons, which, rounding up a bit, meant we were looking for a tank that would hold right around 800 gallons.

on the edge

With the surge calculations in hand, it was time to look at the flow over the edge – in this case, a perimeter that is 84 feet long.

For this project, we wanted a flow of approximately two gallons per minute per linear foot – significantly less than what you'd have flowing over a vanishing edge, for example, but more than enough to keep a steady flow into the slot with no dry spots.

If all you had to do was wet the edge, you could do it with a lesser flow, perhaps no more than might come from a small statue of a fish spitting a small stream into the water. The problem with that approach is that you also have to account for recovery time, that is, the time required to raise the water level back up to the edge when water is pushed out by bathers or wind.

To achieve the desired flow of two gallons per minute per linear foot, we used a three-horsepower pump on three-inch plumbing, which gave us a flow of 160 gallons per minute. This dedicated system has two cartridge filters, in addition to the primary filter system, so we can maintain this high flow rate. With about 80 feet of overflowing edge (deducting the raised planters that interrupt the effect), we're just over the desired two-gallon-per-minute flow rate – enough to re-

place splash-out up to the full two-inch surge capacity in a matter of a couple of minutes.

Once the hydraulic criteria were established, it was time for us to think about construction.

The surface of this sort of water-in-transit pool is defined by the edge of a narrow perimeter slot. That slot is formed as an angled edge at the water line that slopes into a formed gutter. This area is covered by coping cantilevered over the gutter and supported with 316 stainless steel in such a way that only a narrow slot is exposed.

In the Orlando application, we lined the angled side of the gutter with granite that had been ground to a rounded bullnose contour at the waterline. The top of each piece of granite is the dead-level point of the pool: Such an edge must be installed on the full perimeter within a tolerance of plus or minus a thirty-second of an inch.

In this case, we set up a six-inch-deep gutter that is four inches wide on the bottom and six inches across at the top. Four-inch trunk lines encircle the pool and are gravity-fed water from the trough, which flows to three-inch drop lines placed on five-foot centers around the perimeter.

To reduce the potentially annoying sound of water vortexing into the vertical drops and down into the trunk line, we use a special "snorkel" detail: an open-air line that connects the drop line to the wall of the gutter. This enables air to be drawn into the trunk line without creating a vortex and a gurgling noise as the water spills down the drop lines.

completing the scene

Removed from the pool area are, as mentioned above, two separate circulation systems – one for primary filtration, heating and chemical treatment, the other to operate the edge effect. Because the edge serves as one giant skimmer, the system must be designed so that debris can be collected and removed from the surge tank. This means that there should be no grates of any kind on the connections between the trough and drops to the trunk line.

The tank is set low enough so that when the system is off, all of the water in the trough and trunk lines flows directly to it. Inside the tank are high/low water-leveling Levolor sensors (System Dynamics, Scottsdale, Ariz.) and a vacuum-break loop in the return plumbing – all of which are safeguards to prevent flooding of the surge tank when the system is inactive.

When the water level falls below the lower sensor, a solenoid valve opens and adds water. If the water hits the upper level (also defined by the positioning of the overflow line), the other sensor throws a relay that is wired in parallel with the circuit for the edge effect's pump and draws down the level in the tank. The vacuum loop serves to prevent backflow into the tank in the event the check valve in the return line fails – which in time it will, as all check valves do.

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The pool sits gracefully in the small courtyard space, fitting in visually by virtue of borrowing arched shapes from the surrounding architecture.

water in the tank exceeds the surge capacity, we have a redundant measure in place to prevent overfilling of the tank.

None of what I've described here is rocket science by any means, but it does require proper calculations and meticulous installation (not to mention complete awareness of the relationships among all of the factors I've discussed). When you get it right, the results can be a striking, reliable visual effect that will delight clients. In this case at least, that delight was shared by thousands of visitors to a state-of-the-art home. WS

Brian Van Bower runs Aquatic Consultants, a design firm based in Miami, Fla., and is a co-founder of Genesis 3, A Design Group; dedicated to top-of-the-line performance in aquatic design and construction, this organization conducts schools for like-minded pool designers and builders. He can be reached at bvanbower@aol.com.

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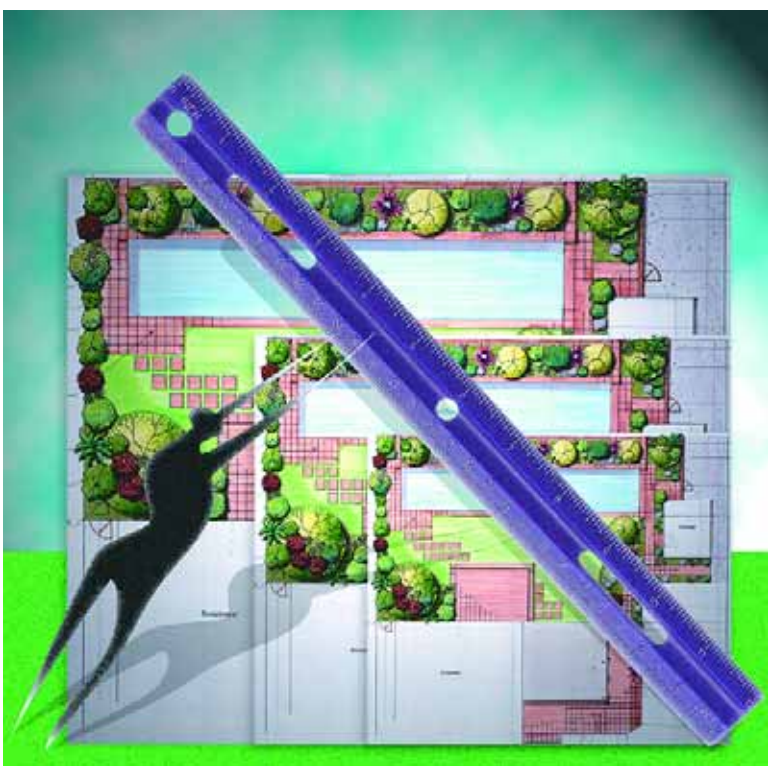


Most of us are in business to earn a living, which is probably why so many of us think of the high-end market as *the* place to be.

In general, of course, the bigger the job, the larger the paycheck will be. But when I look more closely at the work I've done through my career, I believe we might be overlooking valuable opportunities for personal and professional growth by being so single-minded in pursuing grand, big-ticket jobs.

When I started my business 15 years ago, I was happy to find work on small borders in small spaces. Since then, I'm proud of the fact that I have worked my way up to designing for multiple-acre estates. To be sure, I much prefer having a few large jobs to a bunch of smaller ones, but lately I've found renewed value in thinking small.

On a pure design level, I'd say that small jobs can be even more challenging than big ones. I'd also say that I generally learn a good bit more from configuring small spaces and thinking through every intricate detail than I ever do from designing large sweeps of land. These limited canvases force me to pay more attention to how things fit together and to the ways in which scale, texture, color and balance influence my design decisions.

The primary responsibility for the designer of a small space is this: to educate clients about the need for balance, harmony and restraint in achieving a visually appealing landscape.

measured requirements

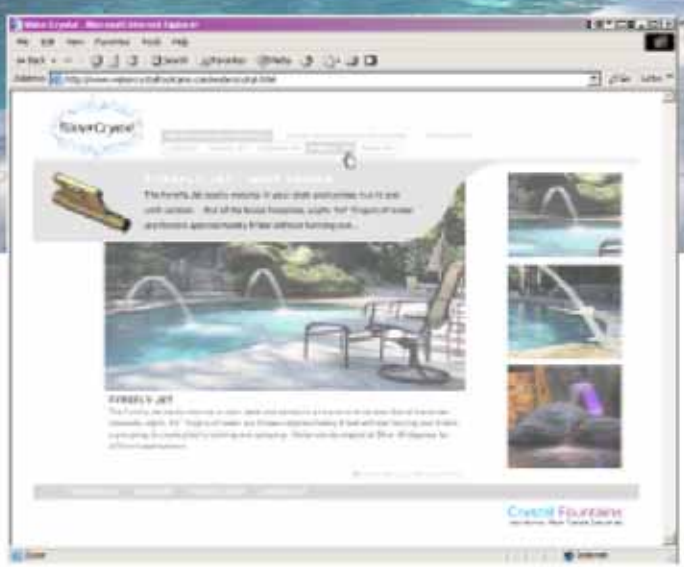
This is not to say I slack off with big projects – far from it. But with larger landscapes, elements can be spread out more easily, challenges are easier to address and physical imperfections (such as equipment pads for watershapes) are easier to hide. In addition, more design elements can be put into larger landscapes because they won't tend to compete visually with one another when observers step onto the property.

In a smaller space, by contrast, every element needs to be carefully planned and placed to avoid visual conflict with any other focal point. The number of specimen plants, for example, will be smaller, and each one will be selected with special care because each carries so much more visual weight in the confined space.

At that level, it's much harder to stay on the same page with clients whose driving interest is making certain their little paradise includes each and every one of their favorite plants and design details.

This brings up what I consider to be the primary responsibility for the designer of a small space – that is, to educate clients about the need for balance, harmony and restraint in achieving a visually appealing landscape. In general, I tell them to think of a small room so cluttered that it feels cramped and disorganized and do all I can to get them to understand that these are sensations they want to avoid in their gardens.

That risk of cluttering exists any time we try to do too much in a small space. To avoid such problems, I begin by evaluating views from inside the house, which is where the clients will be most of the time. I use these primary



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vantage points to guide my approach in just about every design I prepare, big yard or small, but it's particularly important to take this visual inventory with small yards to make the most of up-close, intimate views that will ultimately be the most critical.

Once I've sized up the space and determined the clients' primary wants and needs, I usually create a conceptual design that takes off from the main vantage point inside the house. I do so because I want visitors who reach that "sweet spot" to be drawn out into the garden – and I know that something has to grab them visually for this to happen.

Outside, I configure the space to suit client requirements, trying to balance the visual and functional appeal on a full 360-degree turn. I do so because I like developing a sense in the observer that he or she is fully surrounded by the environment – something that is more literally true in a small space than it is with a big one. (I am also aware, of course, that I

Converting this small space from eyesore to centerpiece required me to fine-tune the details and consider how the results would be seen from every conceivable angle.

want to avoid generating oppressive sensations of claustrophobia!)

To demonstrate what I mean in more specific terms, let's take a look at a couple of small-space projects I've completed through the years and the strategies I've developed for turning compact settings into spacious outdoor rooms.

Indoor Atrium

Several years back, I was asked to take a look at an odd "outdoor" space trapped within a house between the kitchen and the family room. Essentially an eyesore to start with, the atrium was then a patch of dirt hemmed in by glass on three sides with a white stucco wall on the fourth with a picture window in its middle. One of the glass walls was a sliding glass door that provided access to the space.

After contemplating the area from many vantage points and discussing various design options, we settled on blending the space into the overall, '60s-rustic aesthetics of the house – lots of stonework and generally clean, straight lines.

We decided to cover the picture-window wall with ledgered stone from which a rock formation now protrudes with a gentle cascade of water. This provides sounds that echo through the space and overflow into the adjacent family room, drawing attention to the space while eliminating the unsightly white wall.

We also planted a specimen bamboo called Bambusa vulgaris 'Vitata' as a botanical focal point, blanketing its base with shade-loving plants including ferns, Aspidistra (Cast-Iron Plant) and mosses.

This design took a 50-square-foot disaster and turned it into a showplace in the center of the home. It also showcased my design abilities, by the way, and helped me get a contract to design the home's two-acre backyard.

Suburban Square

A more recent project took me to an up-and-coming middle-class neighborhood in Los Angeles. I would classify the home as "eclectic contemporary" – relatively small with a separate garage situated on a back corner of the property.

Moving beyond the existing stretch of dead sod and old "lollipopped" plants, my goal was to make the garden more appealing while masking the garage and compensating for the fact that the property backs up to an elementary school.

My first glimpse of the garden was from the home's front door: It offered me a view all the way to the back of the

There must be space to move around comfortably, and focal points must be arrayed visually so there's never a sense of claustrophobia.

property, where a tall wood fence with horizontal slats had been painted in two tones to match the house.

After much discussion, we decided to place a simple waterfeature along the axis from the front door to the back of the lot in front of the existing fence, backing it up with a clump of specimen bamboo. In the foreground is new concrete patio wrapped by a raised, artificial-wood deck. Stepping down from the deck, the homeowners and their guests move onto a central patch of grass. Surrounding the grass is a pathway that guides visitors around a small but precisely planned space that offers a number of eye-pleasing prospects.

The north wall is covered with mirrors to make the space seem larger. The east side's horizontal slatted fence backs up the fountain, while the south wall has a mural now reflected in the mirrors. Minimal planting completes the picture, leaving a feeling of spaciousness without any sense of clutter.

In this compact yard, the presence of the lap pool creates a sense of greater width, while terra cotta's colors and textures tie the exterior space back to the Spanish-style home.

Spanish Influence

Another recent project includes a broader range of design elements, the main one being a lap pool attended by three water spouts, planting borders and two decks.

Working with the Spanish-style architecture was the key to configuring the space. All of the hardscape is appropriately covered with a terra cotta-colored concrete tile, an exception being the raised bond beam, which, along with the water spouts, is bedecked in six-inch ceramic tile in mixed shades of terra cotta, green and yellow. The spouts emerge from three sun-shaped wall hangings (each one different), with the water spitting out of their mouths.

The lap pool stretches the space visually, an impression reinforced by the surrounding plantings that serve as its backdrop. Simplicity is the key: The plantings are balanced with a mix of soft, medium and coarse textures, and the foliage is about 75 percent shades of green mixed with about 25percent in burgundy.

By limiting the hardscape to two materials and keeping the plantings basic, we maintain visual focus on the pool while creating an inviting setting for relaxation.

in a nutshell

With all of these projects, careful planning was required to ensure visual balance while avoiding visual overload. The goal is to enable the viewer to feel as comfortable in a small space as he or she would be in roaming around a larger, rambling garden.

I look at the challenge as being similar to downsizing in houses and taking all the furniture in a 20-by-20-foot room and making it work in a 10-by-10-foot room. There must be space to move around comfortably, and focal points must be arrayed visually so there's never a sense of claustrophobia. Again, it's all about balance and harmony and drawing the viewer into the room.

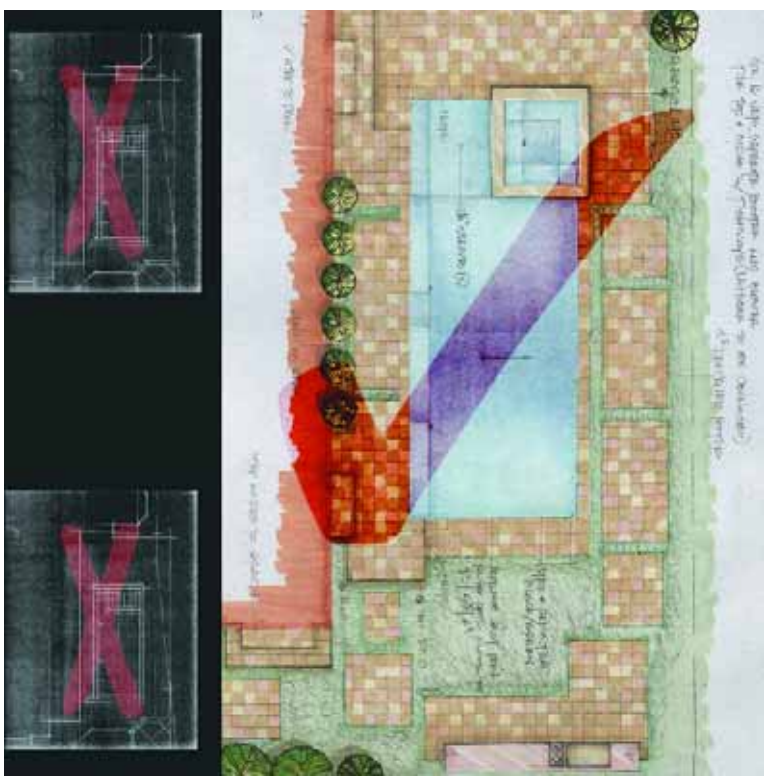
If one element or another disrupts things, it's time to find another place for it to be. That's the key with small spaces: You need to throw some things out, organize everything better and hold on to the things most cherished.

It's this mental exercise of having to consider every detail that, I think, makes smaller jobs so valuable to a designer. I see the challenge of configuring everything and making it work together as a bit of a check on my design abilities. As always, when the client is pleased with the outcome, I know I've done my job well. WS

Stephanie Rose runs Stephanie Rose Landscape Design in Encino, Calif. A specialist in residential garden design, her projects often include collaboration with custom pool builders. If you have a specific question about landscaping (or simply want to exchange ideas), e-mail her at sroseld@earthlink.net. She also can be seen on episodes of "The Surprise Gardener" on HGTV.

By David Tisherman

Outward Bound



Where you've come from often has everything to do with where you're going. As a case in point, let me describe a project that had its origins all the way back at the very start of my work as a watershaper.

My pool-industry career began soon after I graduated from college. At the time, I was living in a garage in a rough part of Los Angeles and really wasn't sure what I wanted to do. I had studied ancient history, three-dimensional design and industrial design and had been accepted as a PhD candidate in pharmacology at the University of the Pacific. I was convinced I wanted to be a designer, but I wasn't sure which field I should enter.

Then one day, at a time when I was about as broke as an organ grinder without a monkey, I answered an ad in the newspaper looking for an artist. I went to the offices of a well-known pool company and showed my portfolio of designs and drawings. They seemed impressed and asked me to call back the following Friday. When I did, the owner he told me that they weren't going to hire me. When I asked why, he said they thought I was over-qualified.

I've learned from the inside out that it isn't about selling but about doing quality work and executing gorgeous designs.

a humble start

Three weeks later, the same company called and asked me to come back because they wanted to talk about hiring me. It wasn't long before I learned that they'd hired the guy who wanted the least amount of money. He didn't work out, so they hired the guy who wanted the second least amount of money. He didn't meet their needs, either. So they turned to me, their third choice.

By this time, the pay I demanded wasn't such a big issue: They bit the bullet, and I went to work. Within a few months, I was so in love with working with water that I knew that this was the type of design work I'd been meant to do. Within 18 months I was doing the design work, pulling the permits, running the jobs on site and the subs were all talking to me and not the owner.

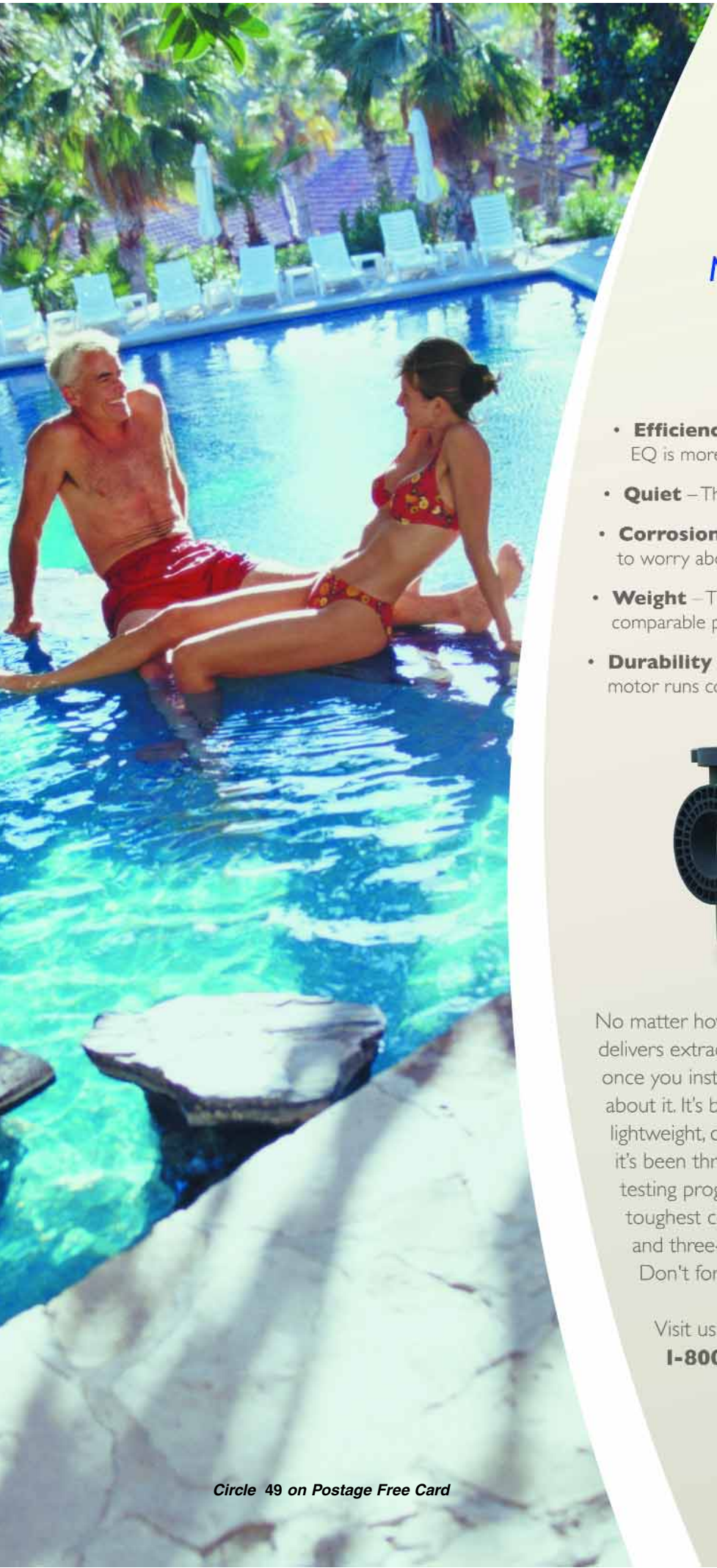
I tied steel, shot gunite, flashed concrete, set tile – and even had a concrete hose explode on me, covering me in concrete and burning me in the bargain. I learned from the inside out that it wasn't about selling but about doing quality work and executing gorgeous designs.

That's how I became a watershaper – and now, some 30 years later, I'm still at it.

One of my projects with the company was for a client who lived in West Los Angeles on a beautiful hilltop property. As was (and is) too often the case, the owner and salesperson degraded the project to lower the price, meet the stated budget and win the contract. The client never even had a chance to consider stepping up to the design I'd prepared.

Without hesitation, the owner and salesperson quickly downgraded the materials, gutted the deck treatment and compromised in several other areas – and it was at this point that I began to see that to do projects the way I wanted, I would have to go out on my own. Before long, that's exactly what I did.

Continued on page 28



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Fast forward to 2002 and my objective in relaying this personal history:

At that time, I was called to the same neighborhood where that long-ago project had been completed to evaluate a possible renovation project. When I walked into the backyard, I could see right away that the existing pool was out of the ordinary: hard lines, an interesting contemporary shape and a style that was unusual for a pool of its vintage. I didn't recognize the name of client, but when he told me that he had purchased the home three years earlier and told me the name of seller, it dawned on me that *this* was the pool I had designed all those years ago.

I told the homeowner the story and explained that I hadn't recognized it because it hadn't been built as designed – and that there were several things I would have done differently. Recalling my original work, I explained that I would have done the decks in bluestone with a large geometric pattern and described a range of details that hadn't made it off the drawing board.

So we tore the pool apart, remodeled it and essentially reinstalled the entire pool more or less as I'd originally designed it.

the plot thickens

Directly across the street from this client lived a structural engineer who came over to look at the work almost every day. He eventually explained that he and his wife were thinking about putting in a pool and asked me to come and have a look.

They'd talked with several builders, he told me, and let me know that the price I'd quoted was fully 40 percent higher than the next-closest bid. But as an engineer who understood the differences between quality and substandard construction, he knew he wanted me to do the job – design, construction detailing and project supervision.

We went ahead with the project, and as is so often the case, I became friendly with these clients – had dinner with them on several occasions, met the kids, shared good bottles of wine and generally came to know them pretty well. And all the while, I was delighted by the fact that I had landed two wonderful projects as the direct result of a design I had done almost three decades earlier.

As the second project moved forward, I met a friend of the engineer's wife, an expatriate Frenchman who ran a salon in West Los Angeles. She told me that while she was getting her hair styled, he'd told her of his frustration with pool builders who couldn't seem to understand what he wanted.

I was leaving on a trip to the east coast when the call came from the third client in this chain of contacts. We made an appointment and, when I returned from my trip a few days later, I paid him a visit. He had already purchased two sets of plans (one for $300, the other for $800) from local builders and was so disgusted with both that he demanded his money back. (One builder complied.)

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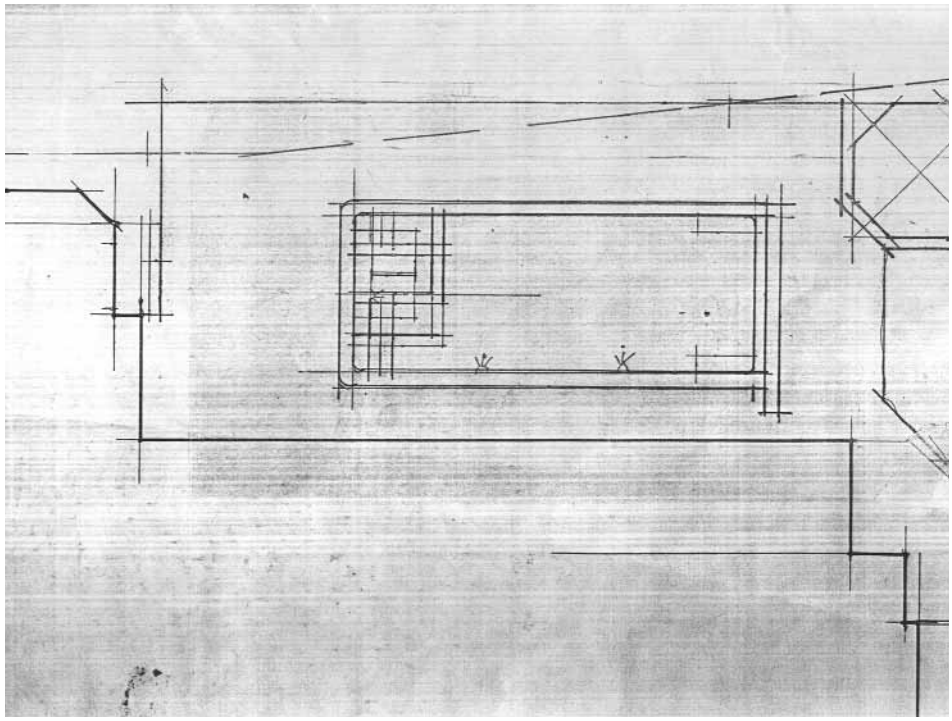
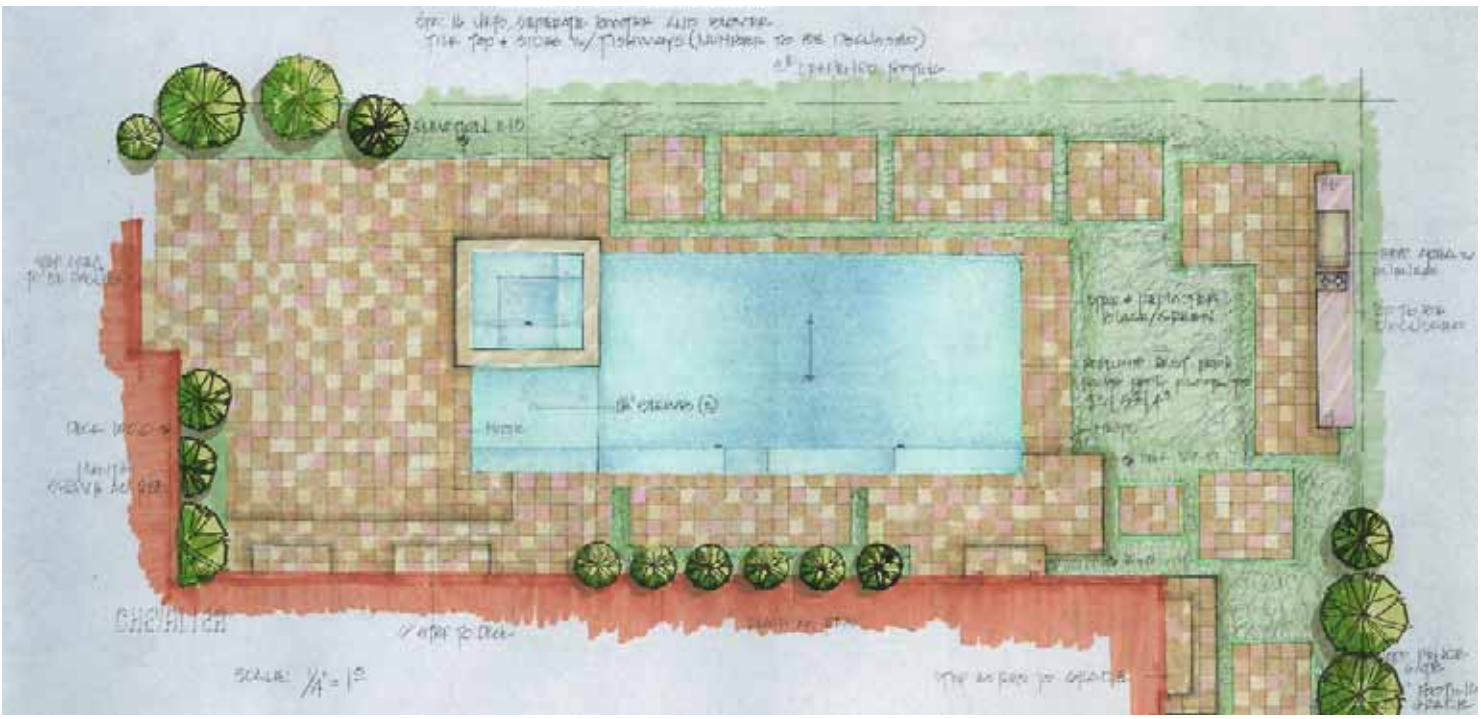
One set of plans was just horrible. It looked as though it had been prepared by a kid who'd spent maybe a week in a high-school drafting class: The scale wasn't just wrong, it was as though there wasn't any scale at all, and it had been drawn in #2 pencil and on bond paper without any sense of dimensionality, smudges and all.

I looked at the *other* set of plans and was even more stunned by the inadequacies. It proposed raising the bond beam by two feet, with no apparent consideration of the fact that the pool's deep end would then be ten feet deep. The plans also called for adding a vanishing edge to the existing pool, but there was nothing there to indicate how it was to be attached to the existing beam.

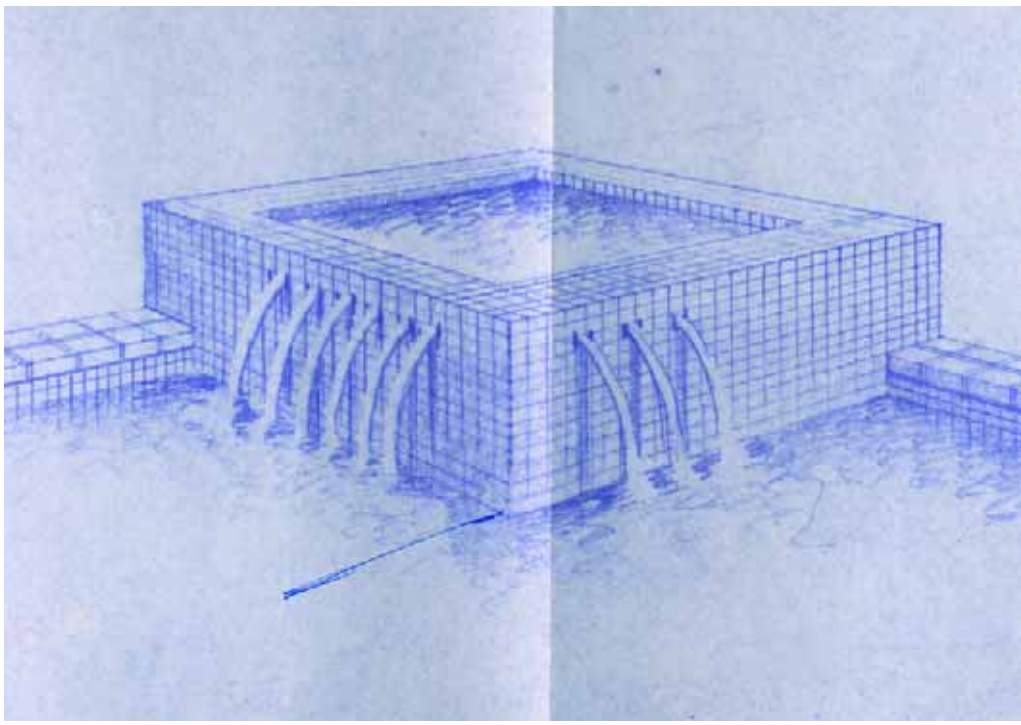
Please understand: I'm not saying that every pool salesperson or contractor must be an engineer. Instead, what I've been saying for years is that people involved in these processes need to understand basic construction principles



The client paid hundreds of dollars for this 'plan' for renovating his pool – an amateurish, shabby and wholly inadequate exercise that led the him to demand his money back.



The client also paid for my drawing, but this time there were no complaints because my rendering gave him a sense of how the entire space would look when the project moved forward.



Some details, such as a raised spa that was to be added as part of the renovation project, called out for rendition in three dimensions as a means of helping the client visualize what was being discussed.

well enough to accommodate the practicalities of the designs they offer and have some idea of how they will be built. Otherwise, it's a slippery slope toward poor work, blown budgets and angry clients.

This second set of plans also included a sunken barbecue area that would require four-foot retaining walls and decks done in concrete with no indication of expansion joints. Furthermore, the soil was uncompacted fill, but the plan specified *zero* by way of structural measures to accommodate the inevitable soil expansion and movement.

Most amazing of all, this particular builder had told the homeowners that the remodel would save all of the existing plumbing. How he expected to make that undersized plumbing work with a vanishing edge is way beyond my understanding. Bottom line: This was a design bound for failure.

breaking it down

Fortunately, the clients were sensible, sophisticated people who, although they didn't know anything about swimming-pool design or construction, picked up on the thought that there was something wrong with the plans they

had received.

They may have been saved by the fact that both presentations were wholly inadequate, but they were probably also alerted to the problems by the fact that neither design did anything to capitalize on a fabulous setting and a great view. The remodeled house was a bold apricot color trimmed in white, its interior has lots of granite and limestone and the cabinetry was all done in fiddle-back maple – very contemporary, very colorful and incredibly expressive.

The one fly in the ointment was the existing pool, which became something of an embarrassment once the house itself had been upgraded. The oddly rectangular design was ordinary, even crummy by today's standards. The plumbing was too small, the lights were in the wrong places, the steps were all wrong, the safety bullnose coping was ugly, the waterline tile was drab and the plaster was plain white. The rest of the space was a mess as well, particularly the loathsome sets of steps that led from the back of the house into the yard.

I sat down with the client and we talked about the possibilities for a good hour or more. He asked me to return three days later, when his wife would be home from a trip, and I came with materials I knew would work, including a gorgeous gold travertine and two glass-tile blends. They liked what they saw, wrote me a check and said, "We need to start."

I generated architectural plans, a detail of the spillways in perspective and laid materials out on site for everyone to see. We had dinner and talked at length about the details I wanted to include in the pool.

Briefly, what we agreed on was the addition of a square spa at one end of the pool, where it was to cantilever over the existing pool shell (which, incidentally, required a special structural section). We're also completely reworking access to the pool from the house, adding steps that run the length of the pool's interior and changing the configurations of the existing corners.

We'll also be making the pool much shallower, redoing the lights and setting up a large thermal ledge and umbrella stand next to the spa. The spa's dam wall will have 11 one-inch spillways, and we'll be installing gorgeous deck pads clad in travertine to create sculptural step/landing treatments leading from the house to the yard. WS

Next month: a visit to Turkey before a return to this renovation project.

David Tisherman is the principal in two design/construction firms: David Tisherman's Visuals of Manhattan Beach, Calif., and Liquid Design of Cherry Hill, N.J. He is also co-founder and principal instructor for Genesis 3, A Design Group, which offers education aimed at top-of-the-line performance in aquatic design and construction.

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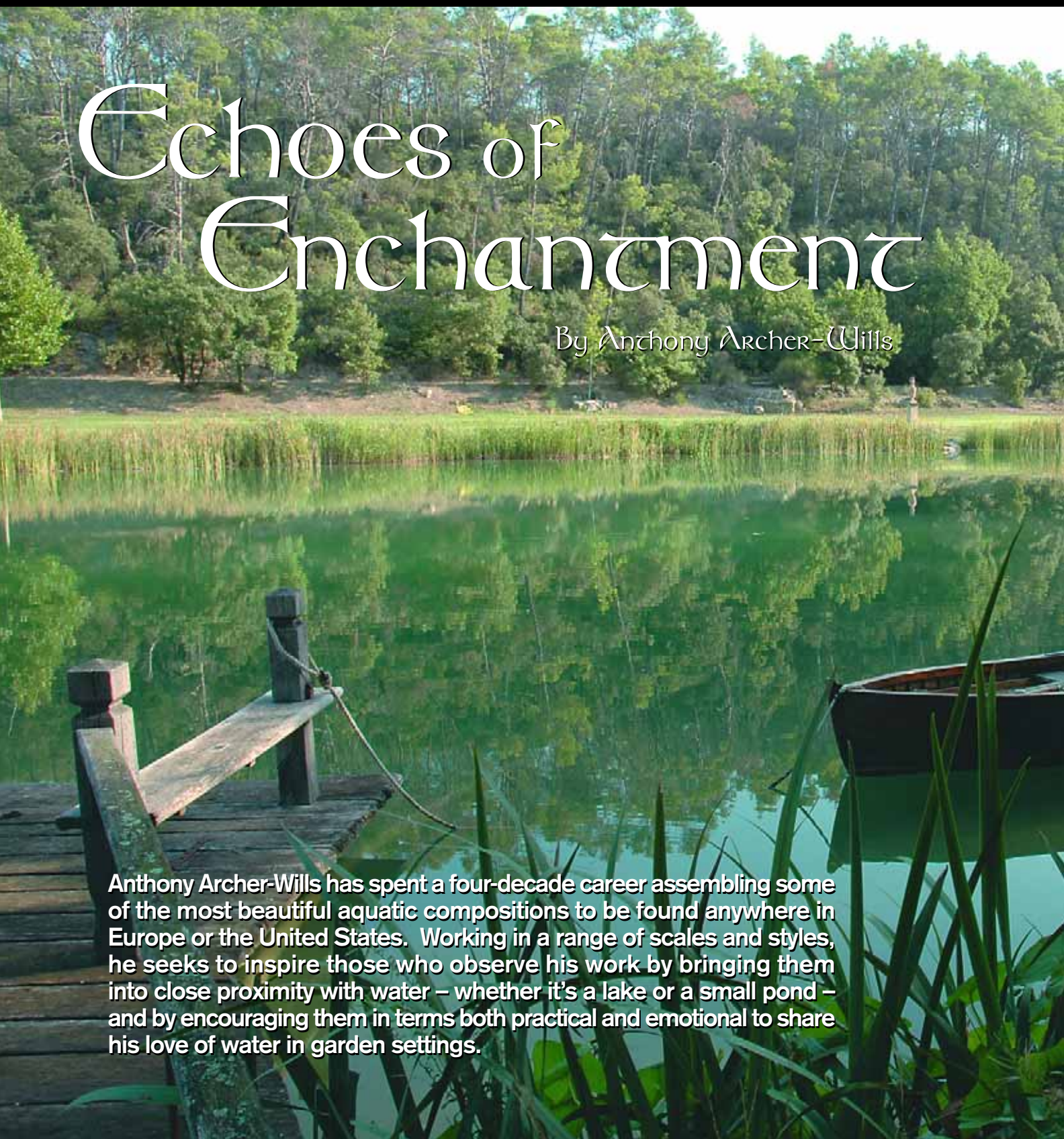
Echoes of Enchantment

By Anthony Archer-Wills



Anthony Archer-Wills has spent a four-decade career assembling some of the most beautiful aquatic compositions to be found anywhere in Europe or the United States. Working in a range of scales and styles, he seeks to inspire those who observe his work by bringing them into close proximity with water – whether it's a lake or a small pond – and by encouraging them in terms both practical and emotional to share his love of water in garden settings.

My journey in the company of water began when I was about seven years old, as soon as I was old enough to explore the countryside near my family's farm in southern England. It was then that I fell in love with water – wading in streams, making dams out of small rocks, sticks and mud and watching the fish darting in clear pools. Much of my summer vacation was spent on a sun-peeled green punt gliding on a lake and staring down to the bottom at the aquatic plants and water creatures. These were clearly my formative experiences.

My parents loved the water, too, and they always had some type of boat. I'll never forget how almost every one of those modest vessels leaked profusely. This gave all of us first-hand experience of enjoying the water as we developed a visceral appreciation of the importance of *controlling* it. Only their last vessel – a 98-foot, three-masted schooner – seemed to defy the ingress of water.

Growing up on the series of farms my family owned, I gained the sense that water permeates all aspects of our lives. There were ponds and streams all around us, and irrigation systems with all sorts of structures that contained and distributed water. We raised dairy cows amid fields of oats, wheat and barley and enjoyed a way of life that granted me by the age of ten a familiarity with animals and plants and natural cycles – and all sorts of machinery, including internal-combustion engines, pumps and other mechanical devices.

It was an upbringing that brought me into direct contact with the aesthetic and natural features of water as well as the practical and technical challenges involved in its control and distribution. And those experiences are echoed in each and every project I've been fortunate to undertake in the 40-plus years I've been working with water – one the most inspiring of all artistic media.

A Guiding Light

I'm both proud and humbled to work as part of a great tradition of watergardening. In fact, when I built my first pond back in 1963, I did so after picking up a book entitled *Perry's Water Gardening*, a text that

quickly became my professional bible.

The author, Frances Perry, was very much the *doyenne* of British watergardening of her era, and I was enchanted by her descriptions of sublime gardens created during the 1920s and '30s. I made many a pilgrimage to the family aquatic nursery, Perry's of Enfield, just outside London. Her insights, aesthetic prowess and love of water plants inspire me and many others to this day.

In her book, she explained that watergardening had never been so popular as it was at that time and that she didn't believe it had reached its zenith. Truer words were never written: Although wonderful watergardens were created in her era, it is as though she could see beyond to an unexplored, grand potential awakening within the water industry.

Of course, in works of art – and in almost any creative endeavor, for that matter – nobody can really ever know when the pinnacle is reached and the artistic possibilities have been exhausted. Even today we see a remarkable explosion of interest in the art of water. I feel privileged to be working at a time when one is able to draw on the legacy of some 3,000 years of watergardening history and have all the wonderful modern technology and machinery so readily available.

By the early 1960s, at the time I started working, most ponds were not well constructed or particularly attractive – and they usually leaked. Also, there were relatively few suppliers who offered plants and fish.

Recognizing a void in the market, I started my own aquatic nursery, growing water plants and breeding fish – a natural extension of my childhood interests and, at first, basically a hobby. But as this increasingly became a true commercial pursuit, it became apparent that my passion would in fact become my profession and would ultimately change my life.

Although I would go on to create water and landscapes that would become sources of some pride, the first pond I built was little more than a pool of pea-green water. Just the same, it provided me with one of my earliest revelations about working with water.

Soon after I completed the pond, a heavy rainstorm flooded the area, and several hundred Golden Rudd washed out of a nearby

A BIT OF FORMALITY: *Although I generally work in naturalistic forms, I'm sometimes presented with spaces that call for formal detailing. Here, a small octagonal watershape sits in the center of a large rectangular space that contains an herb garden (A). I love using octagons in these contexts because they balance and harmonize with rectilinear spaces while softening them. I also like the low stone walls, which invite the visitor to sit and enjoy the space. In the project below (B), which was designed by my friend John Brookes, we worked with the fact that hardscape in more formal settings can serve to bring the visitor right up to the water's edge.*

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Founded by: David Tisherman, Skip Phillips and Brian Van Bower

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GENESIS 3 - THE INTERNATIONAL FORUM FOR CONTINUING EDUCATION FOR WATERSHAPE DESIGNERS

stream, becoming stranded in pools and puddles as the water retreated. I decided to save them, scooping up as many as I could for transfer to my modest little pond.

A Singular Moment

When I first released them into my tiny pond, it was so murky that one couldn't see the fish at all and I wondered whether they would survive the night. When I returned early the next morning, however, I was amazed to find that the water had turned *crystal clear.*

One could see every grain of sand on the bottom. A shaft of sunlight fell full on the fish. They were circling in a tight school with the light dancing on their red fins.

Overnight, they had managed somehow to filter the pond's algae through their gills or change the balance to transform the soupy liquid into something of remarkable beauty and fascination. It was, in fact, a most revealing and enchanting experience – and one I shall never forget.

Indeed, whether it's a pond, a stream, a waterfall or a formal garden, I'm always trying to recapture just this sort of radiant moment that occurs when water, light, life, rock and earth conspire to create a form of beauty that is quite magical. For me, this potency is most perfectly captured when I see small children interacting with fish at the water's edge as they delight in experiencing the touch of water and the nearness of other life forms.

To a large extent, this is why, as challenging as watergardening often can be, great fun and fascination are always there for me.

Among the things that are so very gratifying about my work with water in landscapes is that what I do carries all of that same basic potential for fun and fascination whether I'm working on an intimate formal garden or a lake – or anything in between. I've been fortunate through my career to work on projects that run the gamut with respect to scale and size and have found that, no matter the scope or style of the work, the responses from clients or people who visit the gardens I've developed for public spaces are all fairly consistent.

ELEGANT EDGES: *As a rule, I like to raise the water level to the very edge of a containment structure and allow the plantings on the edge to encompass the transition from dry land to the water's surface. In this large project, however, there was one area with an obvious man-made edge (C). Here, I used mature plantings and cascades of green to create a sense that the architectural edge had been there for years and had been engulfed by the natural world. To help visitors relax and spend time near the water, I've always thought that the simple presence of a bench (or small deck or pier) invites their participation (D). I further reward those visitors by having them wonder where the shore is under all the vegetation (E) and use shallow shelves, promontories and coves to create focal points, hidden views and variety along the water's edge.*

I can't count the number of times that people have told me that they didn't fully appreciate how therapeutic and restful it is to be near the water. Whatever combination of elements exists in these spaces, it's evident in such responses that there's a deeply moving and curative influence at work.

I'm among those who believe that this effect is largely attributable to the fact that we're composed mostly of water and that when we come into its proximity there takes place some kind of exchange of electrical energy. As a result, watergardens become an art form in which human participation is an absolutely essential element, no matter the size or style of the project.

Basic Fasination

The importance and excitement of human participation with water can be felt in encounters that many of us have shared. Consider the experience of approaching a pond or a stream while you're on a walk in the wild: As you come to reeds, tall rushes or irises, these plants signify the presence of water even before it can be seen. One feels an increasing excitement at the prospect of the encounter. If you're lucky, that journey might lead you to a deck, pier or landing that will take you out over the water's surface.

To me, these points of physical access are a passport from the terrestrial world to the aquatic world.

The same happens with the mere sound of moving water, which is often heard long before it can be seen. One is drawn to it by some inner curiosity, unsure what form it may take but drawn by the anticipation of arriving at a place where it can be seen or touched.

I often think of those liberating times when I have swum naked in lakes, streams or oceans. There's really nothing like it, that sense of complete freedom and immersion and total contact experienced throughout the skin. I'll never forget, for instance, the sensations of swimming through the stalks of water lilies, seeing the bobbing beauty of their blooms at eye level on the water's surface – an amaz-

F

ing and elemental interlude.

Even standing dry and fully clothed after a difficult day in the office, simply being near a beautiful body of water engages us in that sort of experience. The sensations associated with water are something that we simply cannot deny when we are in its presence.

In a practical sense, I believe it's absolutely crucial to keep these sorts of aesthetic and emotional connections with water fully in mind as we go about the hard work of creating any type of body of water. It is essential for the designer, even the contractor, to retain that sense of magic when working on the job site. I know from my own experience how easy it is to become embroiled in the problems and challenges of the construction process, so much so that I always make a point of stepping back to visualize the finished product and take renewed inspiration from a site's potential when problems inevitably arise.

Let us be under no delusions: As with my family's boats, water tries hard to find a way through any barriers we establish. The problems that arise when working with water are often profound and will manifest themselves at the slightest opportunity. In fact, anyone who's worked with water knows the nature and extent of the possible technical challenges, no matter how large or small a given body of water may be.

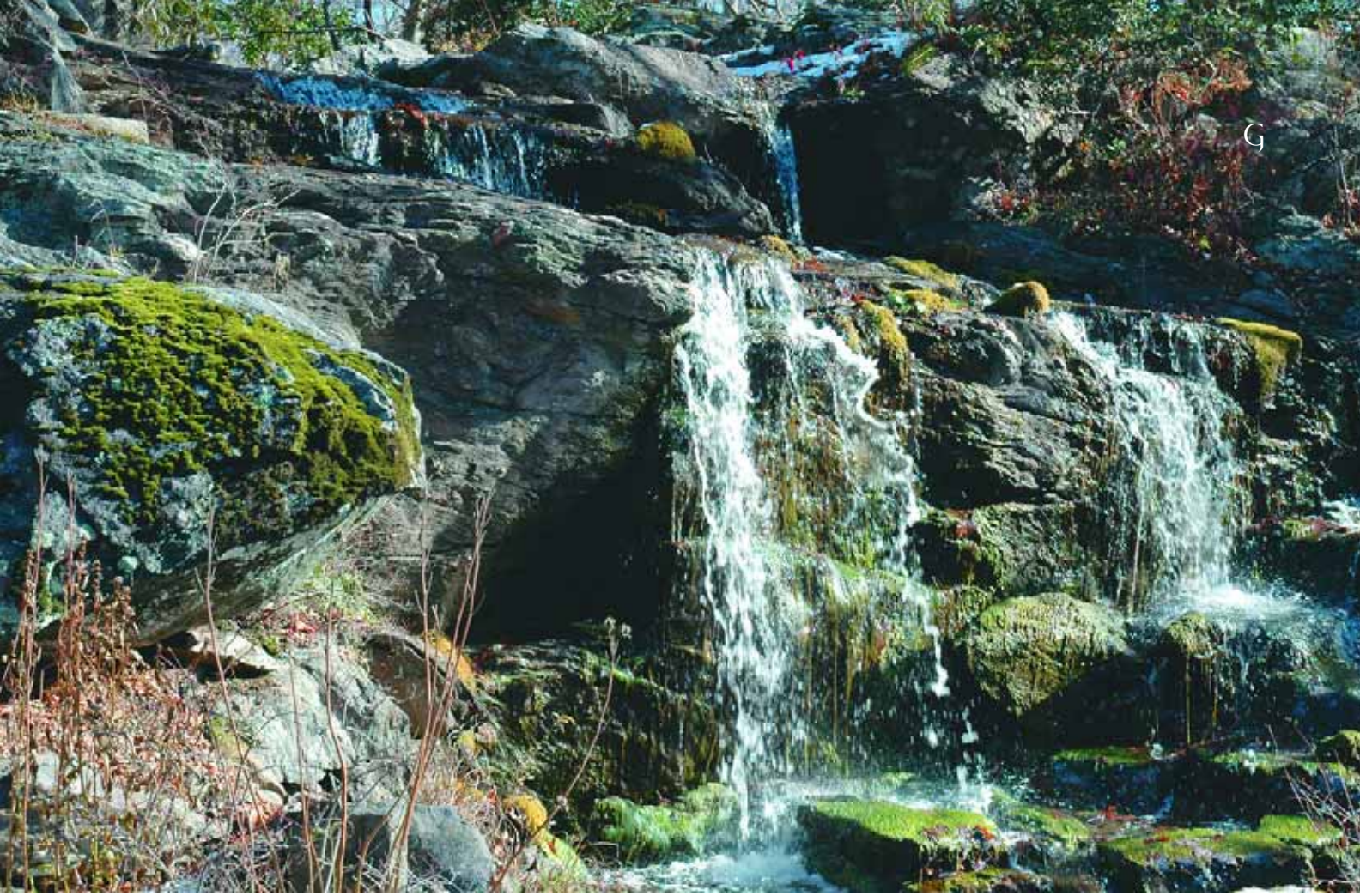
Formal to Natural

In considering the various types of watergardens, they tend to fall into three groups: formal gardens; ponds and lakes; and streams and waterfalls. Working across these categories requires an understanding of their commonalities as well as their important differences.

To a large extent, the site and particularly the architecture of the house or other adjoining structures will dictate the style of an accompanying watershape. One cannot, however, forget the desires of the client: Indeed, I don't believe in being dogmatic and insisting on a formal garden here or a natural pond there – although I *will* make suggestions. I work that way because in my experience it's very rare that client and watergardener can't come to a point in common where both are comfortable with a decision.

As a rule, however, I find that naturalistic or informal gardens work in a larger percentage of situations, especially where there's an opportunity to create the illusion that the water was there first. Certainly, it can be difficult in some cases to make natural compositions look at home next to strong, geometric architecture that extends out into the garden. There is little doubt that some properties require a rigid formal treatment. In those cases, I respond with formal designs that complement the surrounding architecture.

That said, however, I have managed on some projects to create streams that appear to enter the property on one side and exit on the other, leaving the viewer with the impression that despite the presence of this natural running water, the homebuilder was able to create formal structures in and around it.



CASCADE STRATEGIES: In the wild, one rarely sees a consolidated sheet of water flowing uniformly over a straight-edge weir. In mimicking nature, I seek to replicate the much more interesting way that waterfalls unfold in natural waterways, with randomly divided flows of water over multiple surfaces of varying shapes (F). The effect is even more convincing if you can use boulders given character by moss, lichen and years of surface wear (G) while implementing a widely dispersed, ragged flow to suggest age and wildness. Indeed, the use of surface stone material and lush vegetation is the key to creating the impression that rock formations and plantings have been in place for a long time (H), and I also like to use taller rockwork adjacent to the cascade to give the impression that the water is weathering the bedrock. And if I can use large, bold rocks (I), all the better.

The Issue of Scale

One of the things we often hear in discussions during the design process is that a pond or some other type of waterfeature should be in proper scale with the site. I bought into that notion at one time, but I had an experience some years ago that bolsters me when I hear someone say that a watershape I'm planning will be much too big for the setting.

At the time, I was working for an airline pilot who owned a small, single-story house on a lot approximately two acres in size. He told me that he wanted to skate in winter and do as little mowing as possible, and what he really wanted was a pond that took up as much of the space as possible. My first thought was that the pond would be completely out of proportion and would look ridiculous, but he insisted.

So I virtually wrapped the entire house with a pond that measured somewhere in the neighborhood of an acre and a half by the time it was finished. It was a large, informal lake-type vessel backed by trees and shrubs and moisture-loving plants for reflections. A path from the French doors led to a large oak deck that extended out over the water.

As I say, I had misgivings – but only until I saw the pond filled with water for the first time.

It was a revelation: Instead of appearing as a huge pond overwhelming a small house, it had taken on the look of a lakeside residence. It seemed clearly that the pond had always been there and that the house had been positioned specifically to exploit its proximity to the water. By upsizing the pond, the entire aesthetic of the site had been turned upside down in my mind. It was an extraordinary realization – a success. The pilot had been right.

Certainly, success in such cases depends on a client's requirements. Not everyone wants their yard to be covered in water, but for those who do, the results can be wonderful. The space needn't be particularly large for the effect to work, nor does the look have to be informal. Indeed, I've seen it work at close quarters with formal rectilinear ponds traversed by stone paths.

I had a similar epiphany some years later while working with rock: There are those who say that rocks need to be in proportion to the site and to the body of water itself. It's now my view, however, that a few large ones are much more effective than several small ones and that you *cannot* have a rock too big.

This particular debate occurred in association with a large garden I've been building in the state of New York and the issue of whether or not a 250-ton rock would look too big if placed close to the house.

Keeping the experience of the large pond by the small house in my mind, I argued that using the massive boulder would give the impression that the home had been built deliberately adjacent to this wonderfully interesting rock instead of vice versa. It was a fabulous rock, covered in ferns, moss and lichen with all sorts of interesting physical features. We placed it next to the house, and it gave a whole new dynamic to the setting as well as interesting viewpoints from the adjacent windows.

I now await the next debate, in which I'll argue that building a waterfall with three huge rocks might be far more convincing than building the same waterfall with 50 small ones!

– A.A.W.

Properties with small gardens can provide a challenge when it comes to creating convincingly informal effects. In these situations, creating oversized bodies of water that encompass the property or, indeed, allowing some of the water surface to extend out of sight can create a sense that the water was there first and that the residence has intruded on the natural landscape.

In all cases, I believe you have to use your imagination. In my case, sometimes the specific "idea" for a garden will come very quickly and present itself as a sort of self-evident solution. Other times, the best scheme for a given space may take a tremendous amount of time as I sift through all the possibilities for the right answer.

Finding Inspiration

My best ideas often come to me in the bath so, when stumped, I take a long, warm soak. Sometimes I sift back through time remembering the works of nature and past masters. This can be tremendously helpful. The result is that, through the years, I've developed my memory as a sort of internal software that gives me access to a library of ideas that have been put to successful use by others.

I never copy those ideas – and I don't think it's even possible to do so, really – but so often there are concepts that can be followed in the works of the greats in gardening. They are too numerous to list here, but aside from the old classics I take much inspiration from the late Roberto Berle Marx with his bold, sweeping interplay of foliage and textures. There's also my good friend and mentor, John Brookes, who first suggested that I write *The Water Gardener* and has given me much insight through the years. His lateral thinking and refreshingly new designs as well the wealth of gardening books he has written have broadened my approach to garden design.

In studying these exemplars, we may not find hard and fast rules about when to use a formal design or a natural approach, but we *can* find terrific clues and inspiration through seeing how others have chosen to meet given challenges.

I can honestly say that in all my explorations of watergardening, the only thing I truly cannot abide is repetition. To me, it's counterintuitive to think that one set of solutions will work across the vastly different conditions that are presented by the rainbow of settings and clients we encounter, so I've worked hard to free myself of any one stereotype or scheme – which I find to be a big part of why I've been able to work across a wide spectrum of designs so fluidly.

I take pride in the fact that in my work, no two

COOL WATER: Whenever I can, I use plantings both at the shoreline and in the water to blur transitions from the terrestrial to the aquatic environment. In such settings, concealed views create a sense of mystery and draw the visitor more deeply into the space (J). In large, open areas, I will sometimes "enchant" visitors by using flat rock material over broad, shallow riparian areas to suggest that the water has been eroding natural sedimentary layers and smoothing their surfaces (K). It's an open invitation to wading and fuller participation in the environment.


J


K

of my watershapes have ever been the same.

There's a balance, of course, that one must find between ones own ideas and preferences and those of the client. Most of us know that our most crystalline ideas can be diluted as a result of these dialogues and that success in winning the job can mean setting aside our egos, but that doesn't relieve us of the need to apply our artistic skills and sensibilities as we work with the parameters at hand. We should settle for nothing short of the best we can achieve and be constantly pressing for ever-increasing excellence.

I try never to forget that at the end of the day, it is the clients who must live with my work and that I am the one who gets to move along to the next project. In other words, *they* are the ones who will see the work on a daily basis and, one hopes, gain from this new, watery addition to their lives. If I can make things work while remaining true to my own instincts, sensibilities and beliefs, then I am satisfied that I have done something special.

The tool belt of skills and the vocabulary of specific features we carry with us is hugely important in finding that success. Perhaps more important, however, is an ability to draw upon the abiding love of water I assume most of us possess and upon the revelatory experiences that have led us on our creative journeys in the first place.

PICTURE PERFECT: I often use lawns as a means of managing transitions from more organized areas near structures to the wildness of plantings and ponds beyond (L and M). This lends the impression that the water has always been there but that one side of it has been tamed to accommodate the presence of architecture.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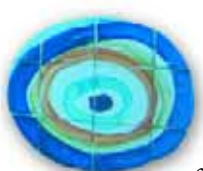
Passions Furnace

Sculptor/painter/ceramic-tile artist Sergio Furnari has spent a lifetime in the fine arts. Raised in a small Italian town where he was surrounded by Old World art and architecture, he's made his mark in the New World by applying his custom-designed, hand-painted mosaics to the floors and walls of swimming pools. Here, he shares his thoughts on the world of art and why, in his case, its purest creative expressions dance beneath the water's surface.

By Sergio Furnari



When I was a kid in Caltagirone, Sicily, everybody worked hard all the time – grueling manual labor in the fields and factories.

By the time I was eight years old, I was already working with my father in a ceramic-sculpture foundry. I didn't do much more than sweep the floors, but I was around all sorts of craftspeople and began to see that there were some forms of hard work that were more fulfilling than others. So I began to think about becoming a painter.

I took my first steps in that direction at 13. By the time I was 18, I'd opened a studio and was painting and sculpting on my own. In those days, the arts community was an exciting place where we shared ideas, fed on each others' energy and competed with each other for good commissions. I'm not ashamed to admit that I thought the established artists I hung out with were cool and powerful in their own ways – and that I wanted to be just like them.

Given the specific nature of my art, it's not surprising that the great Italian masters heavily influenced my work right from the start, including Michelangelo, Raphael and especially Leonardo Da Vinci. They are my heroes, and I see the work I do as a modest continuation of the traditions they established.

These artists taught me that great art is about passion and the desire to create something unique and beautiful. They teach us that we can use our hands, minds and hearts to evoke emotions and touch the spirit. And in trying to follow the artist's path in my own life, I've also found that making art is a pretty good living.

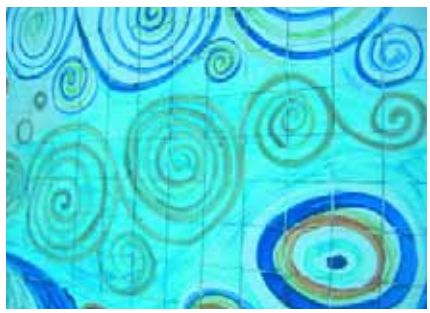
Eternal Forms

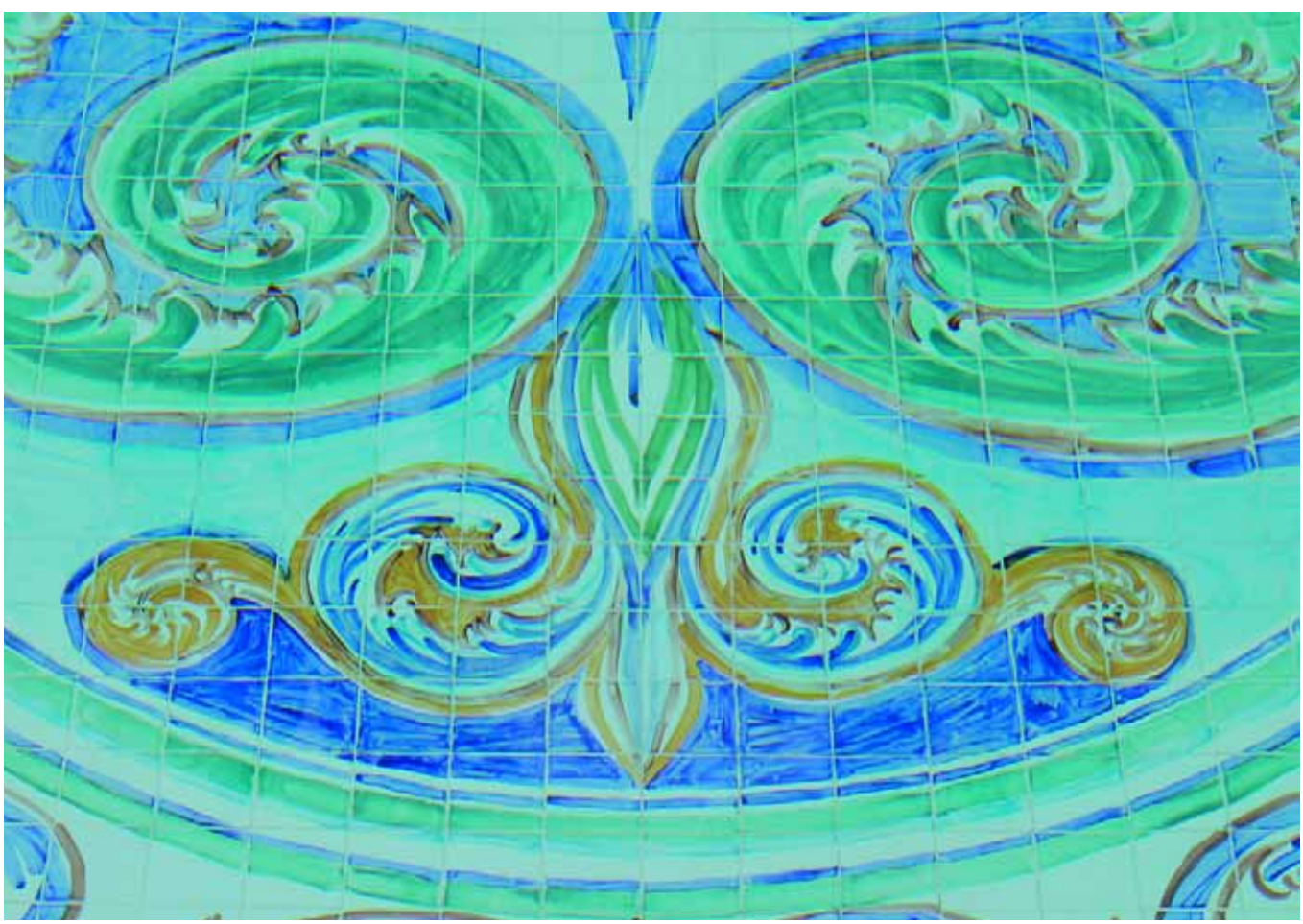
As is the case for just about everyone, I was overwhelmed when I first visited Rome and saw the ceiling of the Sistine Chapel. The figures are so powerful and have been rendered with such shameless passion and skill – and the work is so vast that you can look at it for hours and not take in the whole thing. Not only was I impressed with the work itself, I was inspired by Michelangelo's obvious attitude that, in art, *nothing* is impossible.

By the time I was 20, I had started traveling and eventually came to New York. I fell in love with the city, its people and especially all of the creativity and energy to be found here. I decided to hang around for a while – and have been here basically ever since.

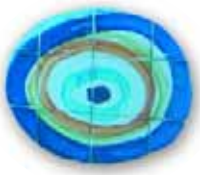
To that point, my work as a painter had been somewhat overshadowed by my early success as a sculptor. I like the dimensionality of sculpture and how it exists in the midst of an environment, but my first passion was painting. It took a while, but I ultimately found my true path by combining my love of painting with ceramics and water. Here I had the perfect amalgamation of elements that could satisfy my desire to create art that is a vital part of peoples' lives.

In a way, it's fitting that tile is my medium because my last name, Furnari, means "those who attend the furnace." I'd studied the ceramic arts in Florence, and all the time that I was working with oil on canvas or with bronze or iron sculpture,





I start my work by numbering the backs of tiles in sequence and laying them out in order on the floor of my studio before painting and glazing them. The patterns I paint are filled with sweeping, organic contours and shapes in a style that is my own interpretation of classic decorative motifs I saw all around me while growing up and learning my craft in Italy.



Patrons astute enough to commission original artwork understand that the process of creation must come from the artist's mind and heart, not from a pattern book.

I always knew in my heart of hearts that I'd end up working mainly in ceramics.

In my hometown in Italy, there's a famous Roman bath. Made out of the same materials I use today, it still looks beautiful. I see today's swimming pools as a modern extension of a great tradition and the perfect setting for the romanticism of classically inspired artwork.

I say *perfect* for two reasons. First, it's a fact that water is mesmerizing and draws our eyes and attention as a matter of instinct. Second, because of the way it is produced, tile offers a wonderful integration of fire and water. The tiles I paint are fired at a temperature of more than 2,000 degrees: By placing these tiles in water, I draw metaphorically on the power and energy of both fire and water.

Yes, I romanticize the materials and processes of my art, but I'm not alone: These materials have been seen together this way for thousands of years in some of the most dramatic and dynamic compositions to be found anywhere.

Bathing Beauty

As is the case with any serious artist, my career is constantly unfolding. To date, working in hand-painted mosaics in swimming pools has fueled all of my artistic dreams and ambitions and has given me a measure of success, but I am still striving and am convinced that one day I will create one of the most beautiful pools ever to be built.

Yes, it's a matter of taste: Some people love naturalistic pools with rocks and cascades; others are inspired by modern artistic sensibilities and may lean toward minimalist or industrial designs. For the clients who commission my works and for me, however, the classic look will always be the most beautiful.

Why swimming pools? Well, for one thing they're generally large and provide a broad canvas upon which the artwork unfolds. I've also worked walls and arcades and benches, and while those projects are exciting in their own way, they don't come close to the drama that happens when you view tile beneath the water in a beautiful swimming pool.

The interactive quality of water environments is also very important to me. How can you not feel good about a medium in which, when you're done, children will play and parents will exercise or spend time relaxing with friends and great glasses of wine?

I also work on smaller scales, designing classically styled bathtubs that I shape by hand. With both baths and pools – and being, after all, a man – I visualize beautiful women lowering themselves into the water. The human form, especially the female form, becomes part of the art. In a sense, this human participation will finish the work I begin in my studio.

I am fully aware as I work that feminine contours influence every stroke of my paint brushes. The spirals, the curves, the sensuous compositions are all a direct result of the study of and appreciation for the female form. I am not alone in this: It's a theme we see explored in works of artists from ancient Greece and Rome through the Renaissance and up to the art of Picasso and others.

Like these masters, I also find great inspiration in the forms, colors and textures of nature and plant materials and see the forms of the human body and flowers in particular as being so intertwined that they make powerful statements about how inseparable we are from nature all around us.

When I work with clients, I know they've come to me because they want me to draw on the fullness of these artistic traditions. It's a very personal process, and for me, it's important that they appreciate my approach and fall in love with my work. I do sketches and listen to what they say. We get to know each other and eventually we all come to understand how my work will fit within their homes.

The Artist's Life

The mosaics I create are all painted by hand, by me alone, and are creative expressions of the purest form. If my prospective clients say they want something that reproduces or approximates something they've seen, I will tell them that they need to contact the factory that generated the look they want. But this is not usually an issue: Patrons astute enough to commission original artwork understand that the process of creation must come from the artist's mind and heart, not from a pattern book.

The method I use is exhausting but quite straightforward: I take the ceramic tiles I need for a project, cover them with a clear coat, then lay them all out in my studio before I start painting with special glazes that I formulate myself.

Once I get going, my discussions with the client and the work we've done in planning the piece is all filtered through my creative intuition as I paint. I feel the inspiration and influence of my life's experience and my absorption of the classics coming out in the brushstrokes. Sometimes, I feel like a higher power is guiding my hand. I know that sounds about as pretentious as can be, but to me it's very real.

When I get in a groove, I can really work up a sweat. Indeed, it's not unusual for me to work for 12 hours or more almost without stopping. It's not quick work by any means, but it's steady and methodical and I'm constantly thinking about how it will look when installed. When I'm finished with the painting, I load the tiles into the kiln for firing. I then inspect all finished pieces individually before they are packed and shipped to the job site.

For a time, I allowed other installers to lay the tiles for me. Too often, however, I'd find a piece or two had been rotated 90 or 180 degrees and, occasionally, a piece that had been put in the wrong place. The simple fact is that when the work features such broad and expressive contours and forms, one misplaced or improperly oriented piece

While I completely enjoy working on big canvasses in the bottoms of pools, whenever possible I will also tackle elements of the surrounding environment and will, as requested, decorate decks with tile 'carpets,' for example, add ornamentation to walls and arches, tile the tops of tables or create elaborate benches. I also will complement my work in the bottoms of pools with vividly patterned waterline and step tiles.

can make the whole composition fall apart.

So now I install every single tile myself. As any tile setter knows, this is hard work, but for me it's preferable to having to go back and fix problems – and run the risk of damaging virtually irreplaceable tiles in trying to remove and reposition them.

Enjoyable Art

With tile art in swimming pools, there is always the near-magical moment when the water comes into play and works its magic.

The refraction of light, the movement of ripples across and within the water, the reflections of the sky mingling with the vivid colors of the tile – it all lends a complexity and sense of depth and dimension to the composition that simply cannot be achieved in a dry environment. It's also exciting to observe these pools over time: Given the way the light and setting changes with the seasons and the hours of each day, the artwork always has a shifting character and appearance.

Of course, my greatest joy comes from seeing the reactions of my clients as they begin to appreciate the completed work as it comes to life. There's also a certain bittersweetness to the process: If there's one fact that saddens me about working on residential pools, it is knowing that only a few people will ever experience the thoughts and emotions that went into the piece.

Of course, I like making these clients as happy as can be, but I am aware in the back of my mind that someday I want to work in more public settings where, through the years, tens of thousands of people will themselves become a part of the artistic process by looking at my work or swimming in the water.

The artist's life is tough in that way, and in others. Living in New York is great for an artist, for example, but you always have to work at a high level just to survive, and here it seems that you even have to pay for the air you breathe. This puts a lot of pressure on being unique and inspiring, and that tends to make it a constant struggle to grow and avoid conflicts between being an artist and being in business.

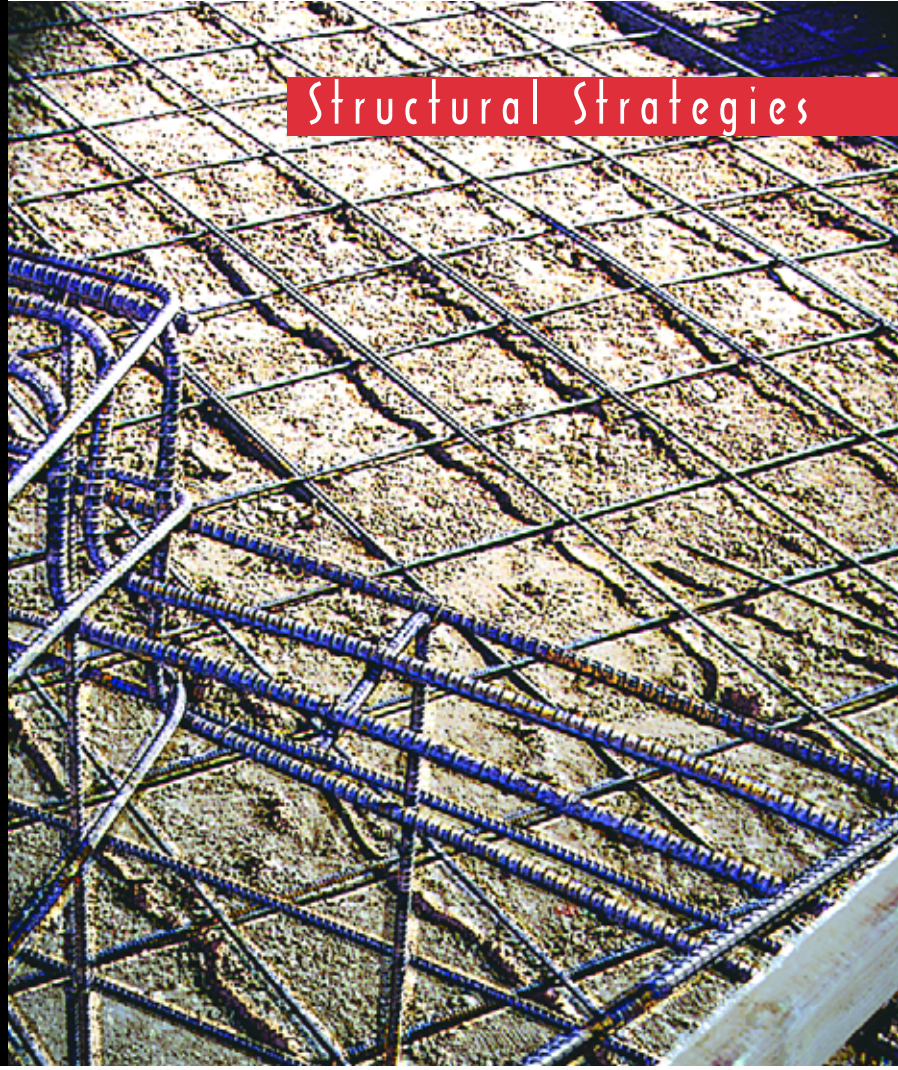
Despite everything that comes as part of the process, however, when I look at the finished work or in my clients' eyes or think back to the furnaces of creativity that inspired me as a child, I know that putting art in swimming pools is exactly what I want to do. For that, I'll always be humbly thankful.

My clients tend to have an appreciation for the roots of my decorative art and often add to the mood by 'accessorizing' in ways that extend and emphasize the classic look. Stone fountains, planters and substantial furnishings work in conjunction with the tile to create an overall atmosphere of elegance, serenity, worldliness and a tasteful indulgence in the good life.

When Pools Crack

By Ron Lacher

It's unfortunate, but sometimes the concrete structures of watershapes will crack or fail in some other way. Determining the exact cause of such problems is the job of an expert who knows what to look for, says civil engineer Ron Lacher, who adds that avoiding trouble involves learning from one's own past mistakes as well as the mistakes of others – and then applying that knowledge in ways that protect future concrete structures against failure.



Even though many swimming pools look similar in lots of fundamental ways, every one of them is actually quite unique.

From soil and groundwater conditions or the specifics of their structural designs to the ways in which they have been installed, water-containing vessels of all shapes, types and sizes are, in fact, subject to a wide array of site- and workmanship-specific variables that can influence the way their concrete shells will perform through the years.

When a watershape cracks, any number of things might have gone wrong. To the owner of a watershape, of course, such cracking is obviously a source of concern. The fix is often expensive, and it's not at all unusual for contractors to defend their work as a means of avoiding the necessity of paying to remedy the situation.

This can leave the owner in a very difficult position in which experts must be called in to determine the true cause of the problem – and then he or she might be left alone to pressure the contractor who installed the vessel to take responsibility and foot what can be a sizable bill for setting things straight.

When experts get involved, the forensic process can vary greatly depending on the situation. Sometimes the problem is readily apparent with a brief visual inspection; other times, however, determining a cause can require a detailed investigation that can itself be costly. But let's take a look at my experience in such processes and see how such hassles might be avoided in the first place.

FAILURE FORENSICS

If there's an upside to watershape failures, it is first of all that these are not generally life-threatening defects and usually do end up being resolved one way or another, even if it takes months and the help of arbitrators. Some contractors and homeowners do a better job than others of keeping that basic point in mind.

Another benefit is that by studying our failures, we as an industry are better able to accommodate the variables found in what we do and advance our knowledge in such a way that we can avoid future problems.

As an engineer specializing in watershapes, I've found through my own involvement in these situations that there are often two basic factors pointing to structural problems – one being soil conditions, the other being workmanship. A key observation is that these two factors are absolutely interrelated in that the soil conditions invariably dictate the specifics of the structure.

A concrete swimming pool, which is the type of vessel I'll use throughout this article to illustrate the issues involved in watershape failures, can be placed successfully in virtually any type of soil so long as it has been designed properly and installed per a structural design that takes soil conditions into account.

But where workmanship issues can be quite straightforward because there are recognized standards and also because

problems are often apparent through a simple physical inspection, soils issues can, by contrast, be tricky in that pool contractors are not required to be geologists. Nor is a soils report required for each and every job: In newer residential developments, for example, it's presumed that the soil conditions are uniform.

There's also the plain fact that even in situations where a geologist has dug "test pits," soils reports don't always catch everything that's going on in the ground. What this means is that there are gray areas in some situations, so anyone examining a failed structure must gain access to the plans, contracts, soils reports, inspection certificates and any other existing documentation to get to the bottom of things.

More important, it also means that a pool contractor needs to be knowledgeable enough to be on the lookout for problems as the project moves forward. Often (but not always), variations in conditions that might lead to problems will be openly visible, for instance, when the hole is excavated for a pool. That's the case with uncompacted fill, for example, which may have a different color, texture and appearance than will properly compacted or otherwise reliable soil.

Many contractors I know are experienced enough to see problems during excavation and can raise the issue with the homeowner before construction proceeds. Although such a revelation about soil conditions may result in a structural redesign and typically in increased costs, it's far better to avoid potential problems up front.

And make no mistake: I'm not arguing that contractors should act like geologists. Instead, my point is that if you see something that looks questionable, it's time to stop working, step back and call in experts to help you make decisions based on firm technical data. Guesswork and "rules of thumb" will only lead to trouble.

With the water lowered beneath the tile line, it's obvious that this pool has shifted out of level. The upper left corner is higher than the upper right corner, and it's easy to see the narrowing band of white as the eye moves along the right side of the vessel. While the damage is clear, the causes aren't always obvious and call for investigation by a professional armed with knowledge and a proper set of forensic tools.

ON-SITE EXAMINATION

When failures do occur, there are so many possible variables involved in a pool's predicament that it is important for the investigator to take an extremely systematic approach to examining the site. In my case, that boils down to a straightforward mental checklist.

If a pool has cracked, for example, the first thing I do is compare the actual waterline with the grout lines in the waterline tile to see if the structure is out of level or has rotated. Because the actual waterline is always level and because the swimming pool tile is supposed to *be* level, you can examine where the water touches the tile and tell whether part of the pool has become raised or lowered. (If there's no water in the pool, I use an engineer's level on a tripod and compare the levels at various points around the pool. A laser or water level will also work.)

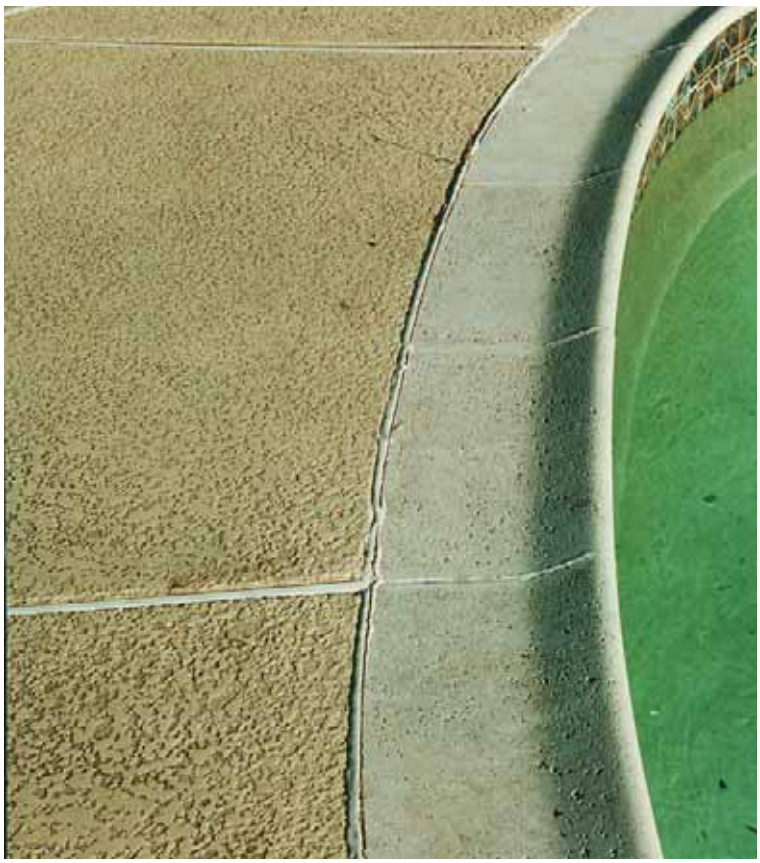
The next thing I look at is the location and orientation of any cracks. If, for example, one end of the pool has settled, you'll typically see a vertical crack that's wider at the top (near the bond beam). From this, you can make a reliable assumption that the pool shell has lost support beneath the end that has settled and that the hinge point has emanated as a crack.

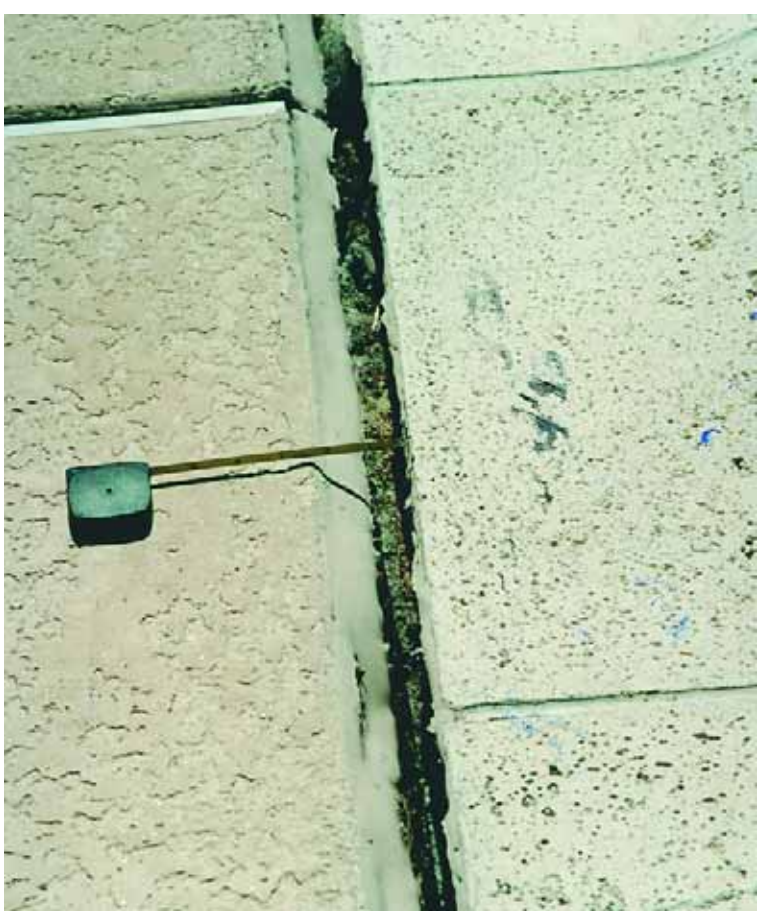
Obviously, if a pool has become out of level, part of the pool will be higher than the rest of it. So how can you tell if the higher portion of the pool has risen or if the lower portion has settled? That's a determination that takes years of experience and is based on the location and orientation of the cracking as well as other evidence observed at the site.

If, for example, you see a crack that emanates from the floor or near the bottom of the wall, then you start to get the impression that the pool may have been lifted up by expansive soil or hydrostatic pressure.

I'm often called to sites where I find a failed pool that has been built behind a retaining wall. If the retaining wall is downslope of the pool and has a footing that's lower than the bottom of the pool, I immediately suspect that part of the pool was built over reliable soil and that part was put on fill. This is what is known as a cut/fill transition, and building on one of them generally spells trouble.

Slope creep is another extremely common cause of a cracked or ro-





tated pool. When vessels are located near the top of unretained descending slopes, frequently the surface of the slope is pulled slowly downward by gravity, leaving the vessel unsupported. In these situations, it is likely that there will be visual evidence of the slope's movement, such as leaning fences or rotated surface improvements near the top of the slope.

I also explore issues of pool movement or rotation by inspecting the gaps in expansion or mastic joints that surround coping stones. If, for example, slope creep is influencing the pool shell, I'm likely to see mastic joints near the top of the slope that are spreading apart or shearing as a result of lateral movement. In the case of movement of a slope uphill from a pool, I'll usually find compressed joints on the uphill side – that is, the mastic material will bulge out of the top of joint as the movement of the soil compresses adjoining decking slabs.

The presence of the high water tables frequently found in low-lying areas is another possible cause of structural failure. In extreme cases, empty pools will lift or float out of the ground. A word of caution: It's not uncommon to float an empty pool that has been placed at the bottom of a nearby ascending slope. Water moving through bedding planes and down the slope saturates the area around the shell and can result in spectacular failures. It's quite a shock to see a floated pool in a hillside area, miles from known high-water-table areas!

There are, of course, less-dramatic examples of groundwater-related problems, as when it intrudes into expansive soils and causes lateral movement as well as upward pressure when the soil swells, loses friction and forms slip planes that makes things move.

SIMPLE TOOLS

When I inspect failed pools, I carry a couple of very important tools with me. Both are about as low-tech as can be, but they can be extraordinarily helpful in pinpointing problems.

The first is a crow bar. When I see cracking in the shell or on the steps of a pool, I'll just tap the plaster surface firmly and listen carefully to the sound. When an area is structurally sound, the bar will make a solid sound with a ring to it. By contrast, when I

One of the ways to tell what's going on with a pool shell involves inspecting the mastic joints that separate the coping from the surrounding deck. If the joint is compressed (as above), I look for an uphill slope that might be creeping and pressing the deck up against the joint. By contrast, if the joint has widened, there may be movement in a downhill slope that is carrying the deck away from the pool.

With the pool empty, an engineer's level will quickly tell you how far out of level the pool has become and in what areas. (A laser or water level will also do the trick.) This offers many clues to the source of the problem that can be confirmed by additional exploration of the shell, any cracking that may be apparent and the pool's surroundings.

One of my tools is a crowbar. Where I see cracks, I tap the plaster surface firmly and listen. When an area is structurally sound, I hear a solid ring. If the area is hollow, there's a distinctly hollow thud. This simple technique tells me a lot about what's going on beneath a pool's surface.

tap an area that is hollow (such as damaged plaster or delaminated gunite), there's a distinctly hollow sound. This is a simple technique that gives me important information about where the problems are beneath a pool's surface.

Another favorite tool is a probe – a simple, straight, narrow metal bar with a "T" at one end for a handle and a point at the other end. Soil technicians are frequently seen using this tool when examining the bottom of pool excavations. Under firm pressure, the pointed end of the probe should not penetrate competent soil.

If penetration into the subgrade soil is easy after portions of the pool shell have been removed, it's a clear sign that the underlying soil is the likely culprit in the vessel's structural distress. If that penetration is not easy, the soil is much more likely to be suitable.

(For contractors, this exercise would be particularly useful during excavation when soil differences are spotted. Keep in mind that when the probe won't penetrate the pool's subgrade soil it's only one indicator, not a guarantee that the soil is suitable for the structure. By contrast, if the probe easily penetrates the subgrade soil, you can rest assured that you're working on material that likely will not support a heavy concrete structure such as a pool.

(It's important to remember that these tools and techniques are – in no way, shape or form – any substitute for a certified soils reports or proper engineering. Just the same, they can be very helpful in helping to avoid problems down the line.)

In general, my informal observations on site with my crowbar and probe will almost always lead to an examination of a soils report and/or the grading plan for the home or subdivision. Often times, I will spot cut/fill transitions or other soil conditions that might be congruent with movement of the pool shell. I might also see the presence of bedding planes that might transmit groundwater through the area or observe soil types that may result in slope creep.

As mentioned above, mass-graded housing subdivisions will often have soils reports that apply to the entire area. In these situations, you can generally count on the reliability of the soil, but I've also seen situations where the grading

A probe – that is, a long bar pointed at one end with a "T" handle at the other – is used to check on the condition of the soil around a shell. If the probe enters the soil easily, it is unlikely that the soil is supporting the shell adequately. If the soil resists, the soil may be competent – meaning we need to find the source of the problem elsewhere.

and compaction wasn't properly supervised and problems have arisen in specific areas. Again, the best place to catch those sorts of problems is during construction – and especially during excavation.

Because there is no certainty without a detailed soils report reflecting conditions on a specific plot of land, I always tell builders to watch for soils that just don't look quite right. Excavators can be particularly helpful here and should be reminded to inform the pool contractor if they encounter any significant differences in the texture or firmness of the soil as they remove it.

If available, construction photos or even some before-and-after photos of the site can be helpful in determining the cause of a subsequent problem. Photographs taken of slopes before construction, of the excavation process or during construction of retaining walls are particularly valuable when it comes to understanding the causes of failure.

WORKMANSHIP ISSUES

For all of the variables introduced by soils conditions and groundwater intrusion, there are times when the real problem leading to a cracked shell is a failure of workmanship. Improper gunite or shotcrete application – especially in the form of inadequate coverage of reinforcing steel – is probably the most common of these issues.

One of the things I look for when I suspect such failures is what I call "reflective cracking." This is the series of cracks that sometimes forms in the pattern of the reinforcing steel in the concrete shell, and I've seen it in a lot in spa dams and other freestanding walls, including vanishing-edge weir walls. In these cases, the gunite has not properly encased the steel, which can happen if the reinforcement is out of position for some reason or if the thickness of the gunite applied over the reinforcement is insufficient.

Another common cause of failure is steel that hasn't been adequately tied. When gunite or shotcrete is applied, material comes out of the hose at a high velocity and hits the reinforcing steel, causing it to vibrate. If the steel has not been properly tied, this vibration can lead to expanses of shell with incomplete encasement. The result is effectively an unreinforced shell that will be susceptible to reflective cracking.

Another common workmanship failure involves installation of decking that lacks proper expansion joints. This can lead to extensive cracking in the decking because the decks can't move freely with any expansion of the soil. We also see problems with the expansion joints that separate the coping from the deck: If they're not properly installed pressure against the bond beam from temperature expansion of the deck will often lead to horizontal cracks at the tile line.

There are numerous other workmanship issues – skimmer installation, for instance, or the interfacing of shells with cantilevered decks or the installation of artificial or real rockwork – that can come into play. The potential problems here are so substantial that discussion of them will have to wait for another article.

The most important point to take away from this discussion now is that each setting, each pool and each failure is a little bit different. This can sometimes lead to frustration with the inspection process, because there is strong desire for a clear-cut resolution and an agreed-upon course of remediation.

In California, which is where I do much of my work, it is fortunate that there are rules governing these investigations that allow me to render my opinions based on established standards. Sometimes, the homeowner or the contractor who is left to foot the cost of rehabilitating a pool will disagree with my findings, however, and will end up taking the matter to attorneys and into court.

I know from my own experience as an expert witness that it's tough to predict how things will go in court or forecast how a jury will respond to the information presented during a trial. If you honestly think the homeowner or a developer or someone else should bear the responsibility for the failure, press on. If not, be aware as a contractor that once you enter the legal realm, you might just end up losing more than you would have had you simply bitten the bullet in the first place.

Better yet, I suggest paying attention to details of soils, groundwater or workmanship in the first place – and avoiding problems completely.

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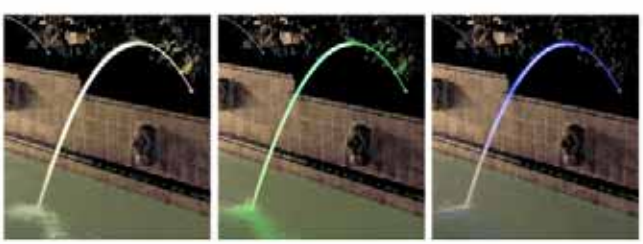

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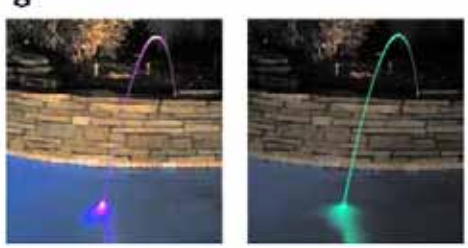

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Classic Lines

By Stephen Wilson

Resplendent with large, classically styled homes, the city of Houston offers great surroundings for classic swimming-pool and garden designs. But this is also an area, says Stephen Wilson of Star Pools, where the ground is flat, the yards can be small and there's not much by way of distant views. The result, he says, is that his company's designs lean heavily on clean lines, rich materials and the understated watershapes he calls 'inground sculptures.'

It's often said nowadays that watershaping is the art of fitting our work into the surrounding environment. In many ways, what we do at Star Pools in Houston is a prime application of that powerful yet basic concept in how we tackle both the opportunities and limitations of the residential settings we encounter.

Houston is dotted by affluent neighborhoods teeming with homes in classic Mediterranean and Tuscan styles. *Stately* is a word often used to describe these homes, and because we've based our design philosophy firmly on the idea that the swimming pool and garden areas should look as though they were designed as part of the home itself, our work is largely a manifestation of these pervasive stylistic sensibilities.

For a long time, we achieved this connection by working in conjunction with local landscape architects; on occasion, we still do. In an effort to create complete master site plans and take our work as watershapers to a more advanced and sophisticated level, however, we brought the lion's share of landscape-design tasks in-house by hiring Greg Perry, an amazingly talented designer.

Through his work, coupled with our extensive experience in designing and building high-end swimming pools and my own background and college-level training in the visual arts, we've been able to expand our canvas to include entire environments – an evolution that has pushed our projects in new and exciting directions.

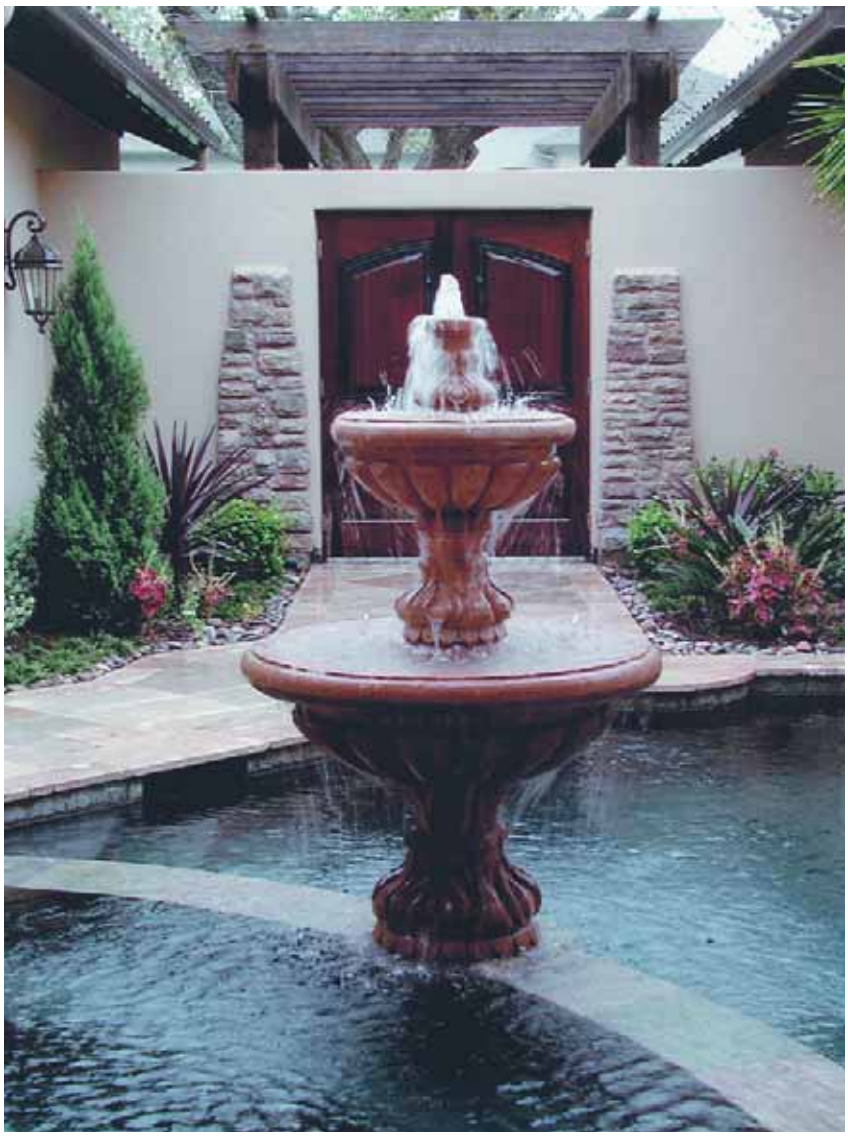
Internal Bearings

In our current work, we often adapt finishes used in the home to the outdoors to blend watershapes and hardscape with the overall context. For decking and coping, for instance, this has meant using large quantities of tumbled travertine, various slate materials and limestone, each with its subtle (yet rich) color palette.

These natural materials complement and soften the geometric/architectural shapes and styles of the majority of our pools. We also make a point of picking up key architectural details – a window shape or a façade treatment, for example – to find additional touches that visually associate the watershape with the home.

To some, this might seem a design gimmick that would tend to produce a narrow range of "looks." In a way, that might be true. We don't ever consider free-form rock designs, for example, because there are no supplies of indigenous rock material to draw on in our area. We also don't have the advantage of elevation changes (Houston is basically flat as a pancake), so we don't see opportunities to do too many vanishing-edge designs or have the ability to draw distant views into the composition.

We've found nonetheless that, by working within these clear stylistic and physical constraints, we have rich and varied opportunities to make the most out the spaces and the settings we're asked to design. Indeed, we've come to view our pools and spas as inground sculptures



Courtyard Diamond

A small entry courtyard is the setting for this diamond-shaped pool. Done up with Old World style and finishes, the setting features a tiered, Cantera-stone fountain that has been placed (with seeming precariousness) on the spa's dam wall, where it aligns with the doors that provide access to the courtyard from the street. This also places the fountain on the courtyard's central axis, where it is seen from many interior views.

The shape was intended to provide as much pool as possible while still allowing for access, patio/deck space and plantings. The use of tumbled travertine coping, slate waterline tile and black plaster lends a softening sense of age to the setting and neatly complements the look of the residence.

and entire settings as tapestries of plants, hardscape and water.

Given the homes and styles with which we work, it shouldn't be surprising that our designs lean on geometric forms with raised walls, pilasters and classic scupper details that create sheeting waterfalls. We also incorporate pottery, traditional fountains and water-in-motion effects using laminar jets or architectural cascades.

In our view, what keeps this from becoming cliché-ridden gimmickry is the fact that most of our clients are looking for something unique. This desire heads us off from any inclination to repeat key elements from project to project. In fact, this yen for uniqueness constantly challenges us to think in new ways and combinations and to develop new solutions for every setting.

Gentle Control

As you'll see in the photographs that accompany this text, much of what we do in developing these unique solutions is about controlling where the observer's eye moves within a scene. This is critical where there are not distant views to carry the observer beyond the immediate setting; it's also a big factor where lot sizes are typically small and the focal points are all within immediate visual and physical reach.

Indeed, one of our main design tasks is to focus attention within the four walls and on the relatively low visual plane on which we're working – low enough to distract observers' attention from the big neighboring homes that may rise above the backyard walls on two or even three sides.

In many respects, this is the opposite task from hillside design, where you very much want the eye to move past the watershape or hardscape and into the beautiful distance. What we do instead is create visual compositions that are often contained within the property lines – a much more intimate and, we'd say, more visually complex design adventure.

The work is always challenging, but I can honestly say that operating in such a self-consciously artistic way has made the tasks of watershape and garden design into a labor of love.

Linear Elegance

The owners of this historic residence were looking for a simple pool with a timeless quality – something that would effectively link the main residence to the cabana while responding to and reflecting the views from both structures.

The resulting pool feature a spa set flush to the water level inside a long, rectangular form and three raised pedestals with scupper fountains spilling into the pool. Special attention was paid to getting proportion and scale of this reflecting pool just right and to ensuring that all design elements were in character with the residence.

The blue flagstone coping, gray porcelain waterline tile and gray plaster were selected for their softening presence. As accents, there are custom pebble mosaics at the coping's corners.

Careful Cascades

A country residence on a wooded site provides the setting for this offbeat design. The pool features a raised spa with seating that lets the homeowners and their guests take in views of the nearby lake. Angled, flagstone-veneered waterfalls lend visual interest and soothing sounds to all areas in and around the pool.

Although the cascade *appears* to fall from the spa, it is actually fed by a reservoir on the top of the spa wall and runs independently. Large steps and generous in-pool benches give bathers lots of space to sit back and relax.

The dark-slate spa walls mimic the colors seen in the tree bark and provide an interesting contrast to the limestone coping and colored-concrete decking. The medium-gray plaster creates a deep blue that draws the eye to a private paradise.

Fire and Water

This spa offers a point of visual interest as well as a place for hydrotherapy and relaxation. The raised sundeck features a bubbler pool that cascades down to the spa's level and is flanked by scuppers in angled wing walls.

A deep space in the center of the spa allows the client to stand while being completely immersed in the soothing water. The main terrace connects to the back of the home and wraps around a fire pit as it flows outward to the spa.

Bold, wide, limestone steps accentuate the horizontal lines and create a sense of spaciousness and destination. The fire pit in the foreground provides a strong visual complement to the spa as well as a place to warm up and enjoy the outdoors during the cooler months.

Scalloped Rectangle

This new home was styled and detailed for an Old World look, but it was limited to a smallish back garden dominated by a large oak tree. We put the pool in a far corner to provide for tree preservation and lawn space and built a slightly arched 18-inch wall to house a hand-carved stone waterfeature with a scalloped rim.

Split-face flagstone adds richness and texture to the wall face along with a sense of antiquity. Opposite the scalloped bowl is a sun shelf and steps with a set of bubbler fountains. The irregular flagstone decking and coping met the homeowner's request for a distressed, aged look.

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Lane Lines

For this project, the clients wanted a traditional-style pool for a large family with exercise and play uppermost in mind.

The pool's long axis is dominated by a pair of 75-foot-long lap lanes and is intersected by an area designed for volleyball. The arched, 13-foot-long waterfall is positioned to maximize views from inside the residence. Pencil-jet fountains in the play area fill the space with sound while framing and setting up the view of the waterfall.

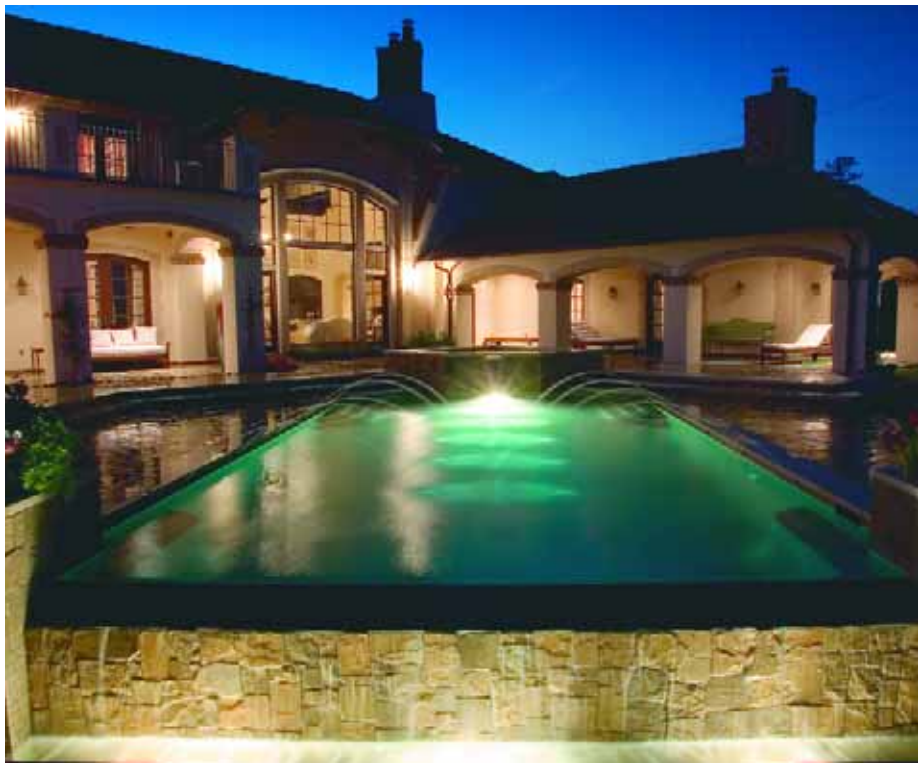
Tumbled limestone coping, walls and decks add soft visuals while contrasting with the blue water.

Continued on page 68

Lakeview Luxury

This gorgeous lakeside residence is the perfect setting for one of our rare vanishing-edge designs. The large, raised spa draws people to the pool and the ideal position to take in views of the lake above the arching pencil-jet fountains and raised pedestals. Between the pedestals is a classic, water-on-water/vanishing-edge illusion, with the pool and the lake appearing to blend together from many of the most significant viewpoints within the yard and from the home.

Wide limestone coping and steps are used to create a sense of a grand scale. Natural stone on the pedestals and spa facing provides a rugged, Old World look, while the medium-green plaster lets the pool mimic the lake water's color.



Need More Information?

Use the Reader Service Card!

Of Interest

The following information has been provided to WaterShapes by product suppliers. To find out how to contact these companies, look for the Product Information Card located on page 66.

Wall-Estimating Software

Circle 135 on Reader Service Card

KEYSTONE RETAINING WALL SYSTEMS has introduced KeyCalc, a program designed for quick access to information needed to estimate the costs involved in construction of small- to medium-sized retaining walls. The system operates on Palm PDAs, and estimating can be done without printed reference materials, laptops or calculators in minutes instead of hours. **Keystone Retaining Wall Systems,** Minneapolis, MN.

Fiberoptic Lighting

Circle 136 on Reader Service Card

SUPER VISION INT'L offers fiberoptic lighting systems for applications in and around watershapes, including underwater, perimeter and landscape use. The systems include illuminators, cables and fixtures and feature color-changing capabilities to allow for individualized mood setting in any backyard. Pathway lights, illuminated pavers and a range of landscape fixtures are available. **Super Vision Int'l**, Orlando, FL.

Floating Fountain

Circle 137 on Reader Service Card

KASCO MARINE has introduced the Model 1400JF, a 1/4-hp floating fountain. Designed for high-efficiency operation at a reasonable starting cost, the fountain features five interchangeable nozzles for multiple fountain patterns and comes with an LED light ring for illumination after dark. The unit comes complete with a 50-foot power cord that runs both the fountain pump and lights. **Kasco Marine,** Rothschild, WI.

PVC Fittings

Circle 138 on Reader Service Card

LASCO FITTINGS offers a complete line of schedule 80 PVC fittings, including tees, reducing tees, 90-, 45- and 30-degree elbows, crosses, straight couplings, reducer couplings, male and female adapters and reducer bushings in slip, threaded and combination configurations. All parts are made from 100% virgin materials in sizes as small as 1/4 and up to 8 inches in diameter. **LASCO Fittings**, Brownsville, TN.

Digital Pool Heater

Circle 139 on Reader Service Card

RAYPAK offers a gas pool heater equipped with a microprocessor-based control center. The control offers a constant readout and precise temperatures at the push of a button and features onboard diagnostics and remote compatibility. The heating unit comes with a choice of fin composition – copper, ASME copper or cupro-nickel – with each one suited to specific durability requirements. **Raypak**, Oxnard, CA.

Aquatic Plant Guide

Circle 140 on Reader Service Card

PACIFIC WATER GARDENS has published a guide to popular aquatic plants for watergardening applications. The four-page, full-color flyer includes grasses, calla lilies, canna, cattails, papyrus, dwarf palms, rushes, lobelia, hyacinths, water lettuce and more with complete information on zones, growth features, mature heights, maximum planting depths and the need for sun or shade. **Pacific Water Gardens**, Molalla, OR.

Wire Saw for PVC

Circle 141 on Reader Service Card

POOL TOOL offers a wire cutter for PVC pipe. Designed for use in tight spots that make use of a hacksaw or a standard pipe cutter difficult, the wire saw's filament quickly cuts through PVC of any diameter and requires no more than a quarter-inch of clearance to get the job done. The wire saw cuts with friction-produced heat, but it is still capable of cutting through water-filled pipes with ease. **Pool Tool**, Ventura, CA.

Pool Enclosures

Circle 142 on Reader Service Card

CCSI INT'L manufactures rigid-frame, glazed pool enclosures and skylight roof systems. Designed to enable homeowners to extend the swimming and outdoor-entertaining seasons and increase the safety of the pool setting, the enclosures provide years of reliable service and state-of-the-art performance and appearance. The company also offers help in the planning and layout stages. **CCSI Int'l**, Garden Prairie, IL.

Continued on page 72

POND PRODUCTS

Circle 143 on Reader Service Card

SAVIO ENGINEERING has published its Spring 2005 catalog of pond products. The 24-page, full-color booklet covers skimmer/filters, waterfall weirs, pumps, UV clarifiers, biofiltration media, water treatments, plumbing components, accessories, liners and more. Also included are complete pond systems and kits that include everything needed to install a pond with professional results. **Savio Engineering**, Santa Fe, NM.

COMMERCIAL PUMPS

Circle 144 on Reader Service Card

MARLOW offers a complete line of self-priming, end-suction centrifugal, vertical turbine and split-case pumps for applications with commercial pools, waterfeatures, fountains and waterparks. Available in sizes ranging from 1-1/2 to 2,500 hp and with flow capacities running from 50 to 150,000 gpm, all models are designed for ruggedness, durability, dependability and trouble-free operation. **Marlow**, Morton Grove, IL.

ANTIQUE COBBLESTONES

Circle 145 on Reader Service Card

MONARCH STONE INT'L offers authentic, antique cobblestones reclaimed from European streets. Ideal for use in walkways, driveways, decks and interior flooring, the material comes in a wide variety of shapes and sizes – from small mosaic pieces to large squares and rectangles – and is available as granite (in browns, greens and grays) or hard sandstone (in grays and warm earth tones). **Monarch Stone Int'l**, San Clemente, CA.

LANDSCAPE LIGHTING

Circle 146 on Reader Service Card

ROCKSCAPES has published a quick-view guide to its landscape lighting products. The 8-panel, full-color booklet offers tips on low-voltage wiring in outdoor settings as well as a brief guide to path and garden fixtures; accent flood lights; inground and underwater systems; deck, patio and step lighting; lanterns; and a complete line of accessories including transformers and connection systems. **Rockscapes**, Chatsworth, CA.

Pool/Spa Valves

Circle 147 on Reader Service Card

PRAHER has introduced several valves for 2005, including Aquastar, an automatic backwash valve; heavy-duty butterfly valves with full liners and flange bolt patterns; 3- to 8-inch full-flow swing check valves; variable-flow diverter valves with auxiliary side ports; double-union spring check valves in 1-1/2- and 2- inch sizes; and a series of compact, single-union ball valves featuring pressure adjustments. **Praher**, Barrie, Ontario, Canada.

Painted Glass Tiles

Circle 148 on Reader Service Card

TILESQUE offers the Reflective Expressions line of murals, waterline tiles and single-tile accents. Picking up on themes of Southwestern art and geography, the glass tiles depict mesas, desert scenes, sunrises, sunsets, lightning displays, cacti, palms, Joshua trees, geckos and more in single 6-inch tiles, waterline strips or panels up to 12 feet long by 3 feet high. Custom images and sizes are available. **Tilesque**, Largo, FL.

Heat Pumps

Circle 149 on Reader Service Card

ZODIAC offers the HPT Titanium Series of pool heat pumps. Designed for cost-effective, personalized control of pool-water temperature, the units feature titanium heat-exchange coils, heavy-duty compressors, molded polypropylene cabinets and digital control panels. Three models are available, ranging from 80,000 to 115,000 Btus, and are made for pools with up to 800 square feet of surface area. **Zodiac**, Pompano Beach, FL.

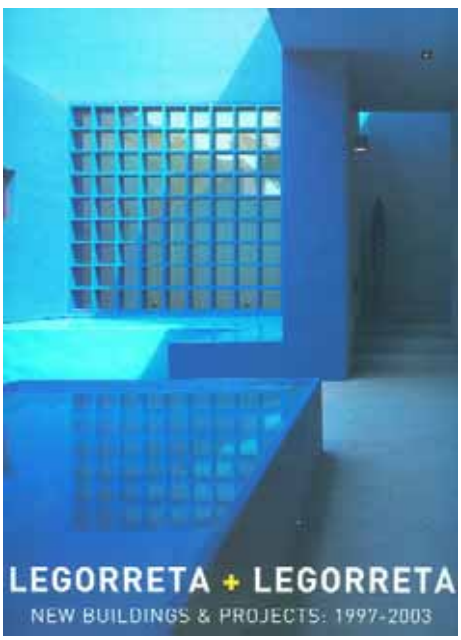
Removable Safety Fencing

Circle 150 on Reader Service Card

BABY-LOC offers removable safety fences for use around swimming pools and other watershapes. Made with a neutral black see-through mesh that won't rip, stretch or fade, the 54-inch-tall fences come with either fiberglass or aluminum poles, solid-brass latches and self-latching magnetic gates. Neutral-colored caps that fit snugly into the deck sleeves when the fence is removed are included. **Baby-Loc**, Hauppauge, NY.

By Mike Farley

Beyond Borders



Back when I was still new to watershaping in the mid-1990s and working for a construction firm in Northern California, I was asked to review a project for a custom home under construction in Napa Valley.

I was intrigued, partly because the identity of the client was a closely held secret and partly because all project information and bidding was flowing through an architect in Mexico City. But what really grabbed my attention was the set of plans for the home and grounds – just incredible!

I'd never seen anything like it. The modernist-style home was based on big vertical and horizontal planes in brilliant colors. There were courtyard fountains, large rectilinear reflecting pools and a beautiful vanishing-edge swimming pool. The design was so outstanding that even when we missed out on the project, I held onto a set of the plans just because they were so fascinating.

It didn't mean much to me at the time, but the architect was Ricardo Legorreta, the world-famous Mexican architect.

Fast-forward a couple of years: I had relocated to Texas and was starting out with a new firm designing and building custom pools when I saw an issue of *Architectural Digest* with the completed Napa Valley house on the cover. The owners were still anonymous, but their home had become known as the "Cabernet House," and the article shed light on the Legorreta's fantastically daring career. Since then, I've read many articles on his work and have become a true admirer.

I recently picked up *Legorreta + Legorreta: New Buildings and Projects (1992-2003)*, with editorial coordination by Laura Laviada-Checha (Rizzoli International, 2003). As the title makes clear, the book covers Legorreta's recent works, most of which have been collaborations with his son, Victor Legorreta. It includes 30 case studies, about half residential, the other half commercial including dorms at Stanford University in Palo Alto, Calif., along with a selection of hotels and office buildings.

The book's 300 pages offer scores of stunning photographs and design sketches. Although many of Legorreta's best-known projects have been covered in previous volumes, this collection is nonetheless a feast of designs that to my eyes are every bit as creative and potent as those from earlier stages of his career. The text doesn't dig deeply into design philosophy, instead opting for a more anecdotal exploration of the process he uses in developing his designs.

It is also full of terrific quotes from the master himself, including his oft-quoted declaration that "Architects build dreams." When you study his daring use of color, walls and the geometry of modernism as well as the settings and especially his use of water, it's obvious that this creative genius has taken his credo very seriously.

Influenced by his countryman and fellow architect Luis Barragan, Legorreta's work is self-consciously and distinctively Mexican. As he explains in the text, his desire as a designer has been to take the finest aspects of Mexican culture and expose them to the world through his own work.

It's clear that a big arrow in his design quiver is the bold use of moving and reflective water. In several of the case studies, he explains that his work is also aimed at solving problems, and in many cases he has used watershapes not only to provide visual and aural experiences, but also to take advantage of their cooling effects in his open, airy outdoor spaces.

He also goes into depth about how the settings in which he's worked and the presence of nature are major factors influencing his designs. Indeed, whether he's approaching a project in the jungles of southern Mexico, the deserts of California or the vineyards of Napa Valley, Legoretta's work is invariably in harmony with its surroundings.

I could go on and on in praise of Legorreta's designs, but the experience I recommend is letting your eyes wander over the images of this book and drinking it all in for yourself. At the very least, you'll benefit from familiarizing yourself with the achievements of this titan from south of the border. WS

Mike Farley is a landscape architect with more than 20 years of experience and is currently a designer/project manager for Gohlke Pools in Denton, Texas. A graduate of Genesis 3's Level I Design School, he holds a degree in landscape architecture from Texas Tech University and has worked as a watershaper in both California and Texas.

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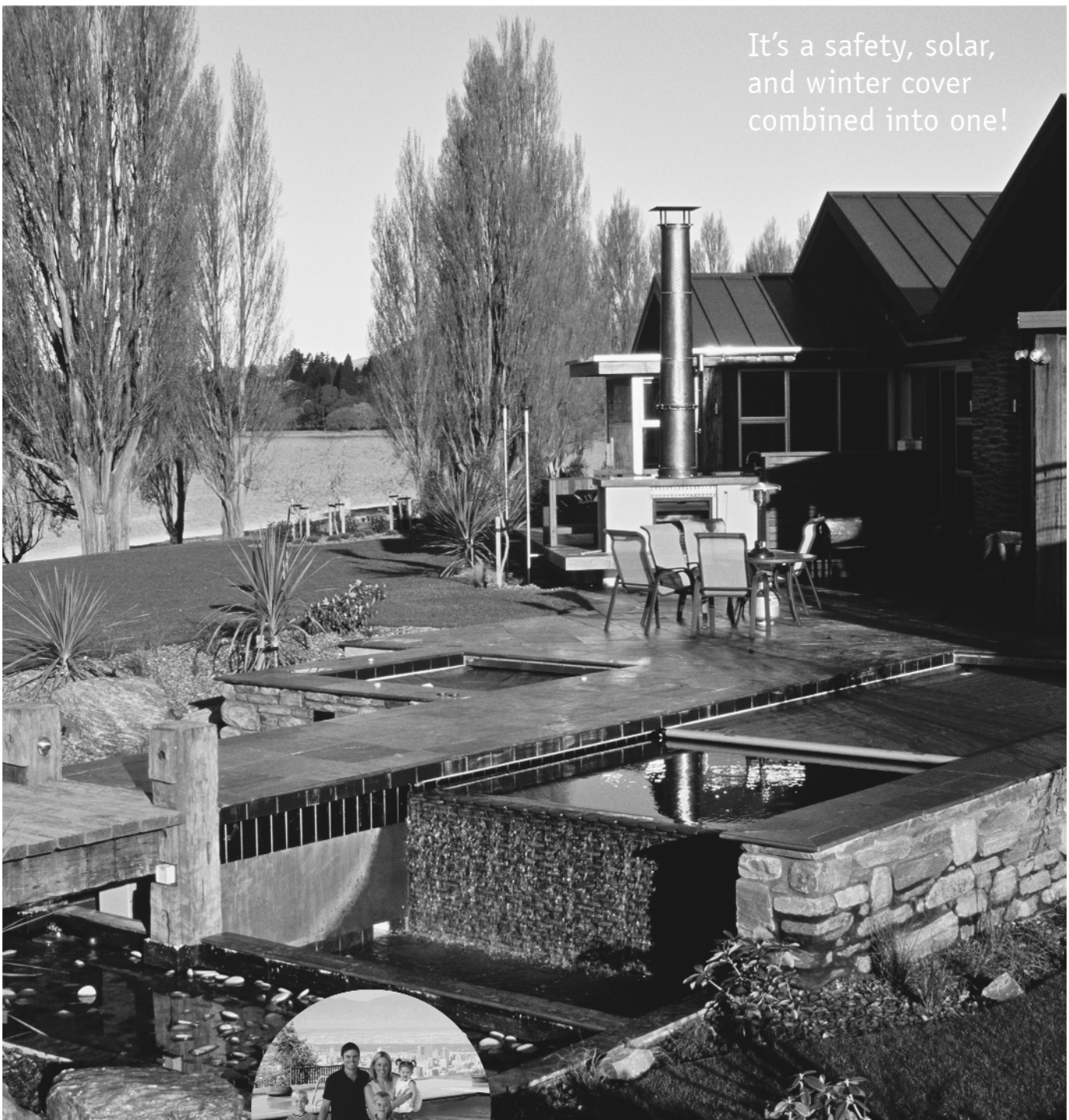

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