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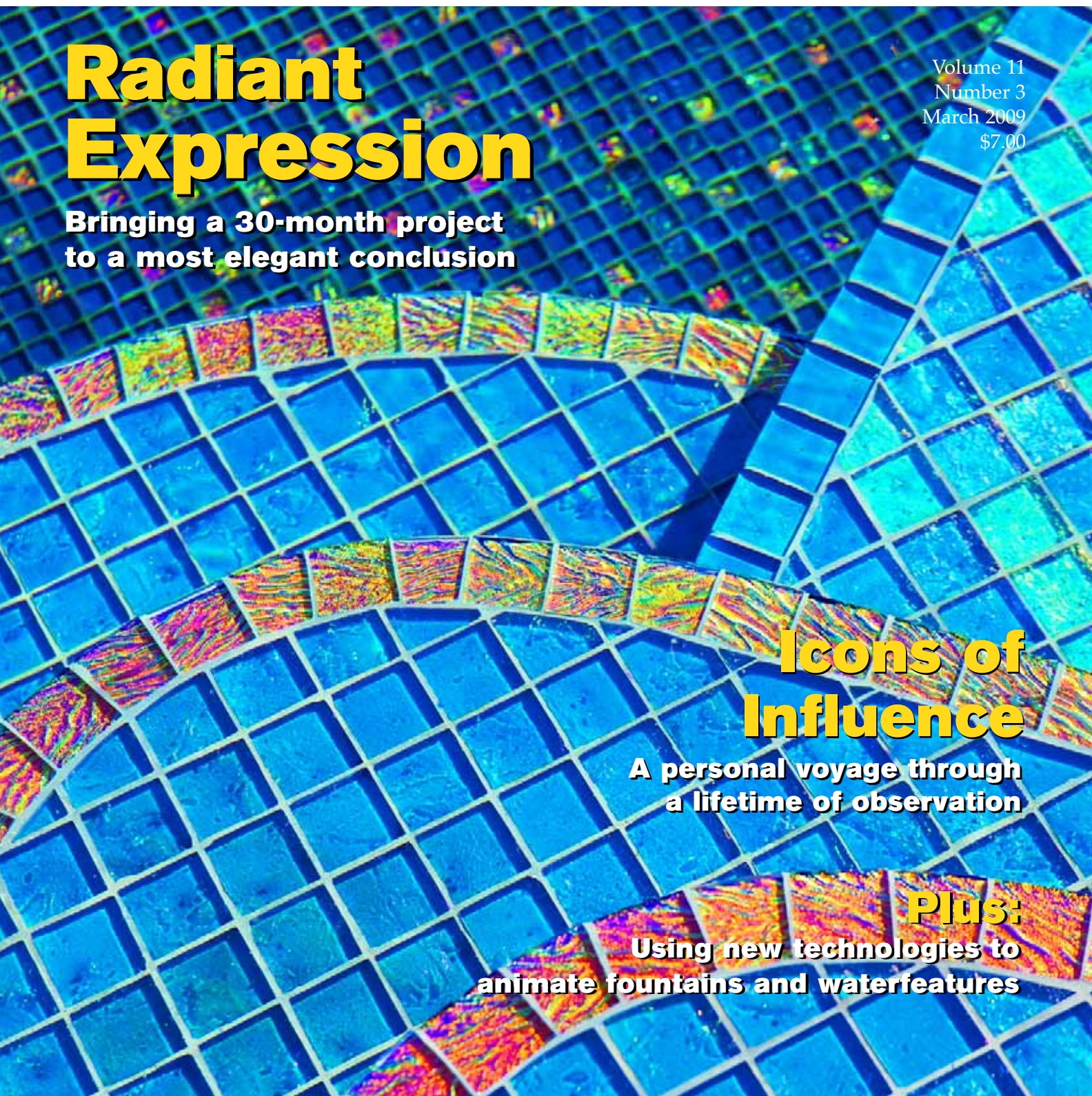

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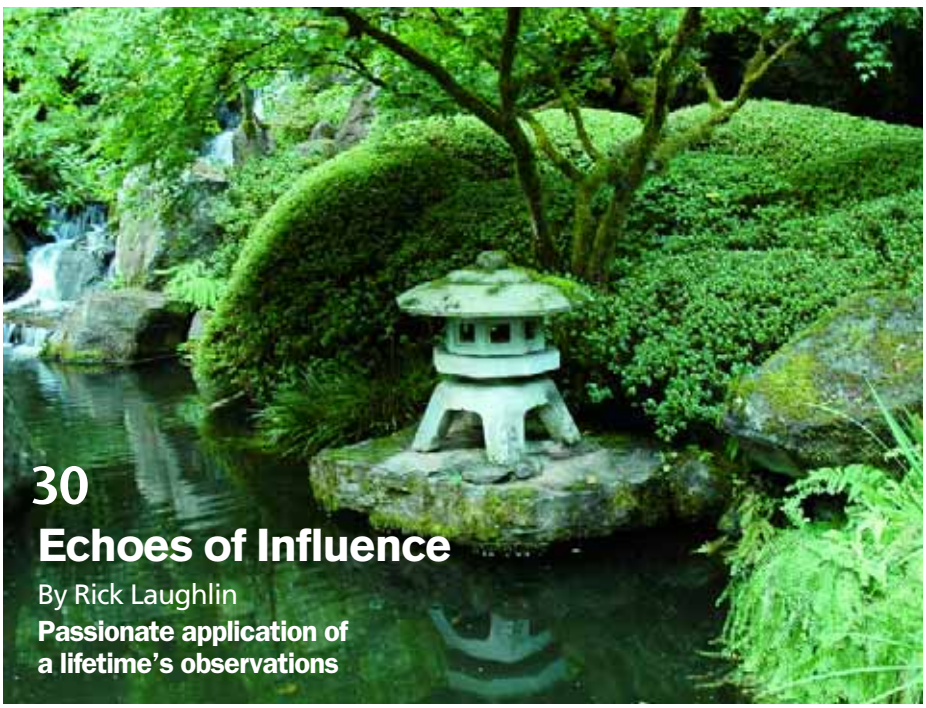

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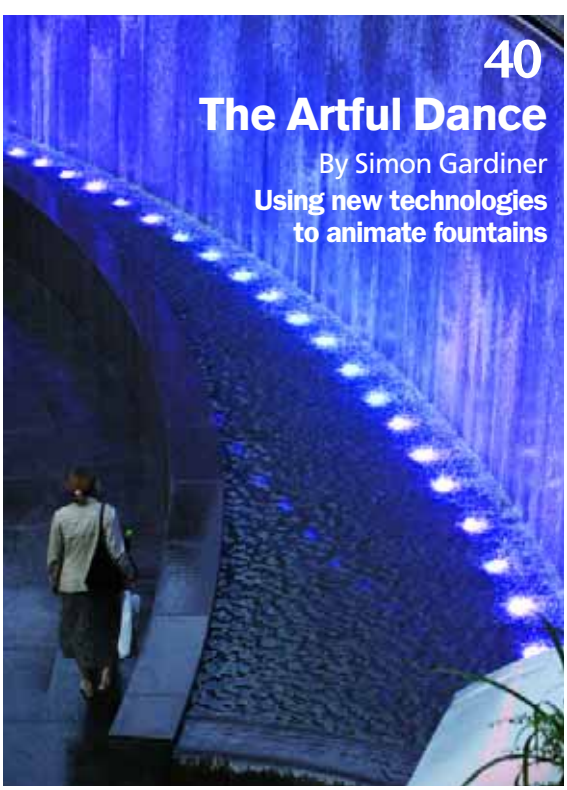

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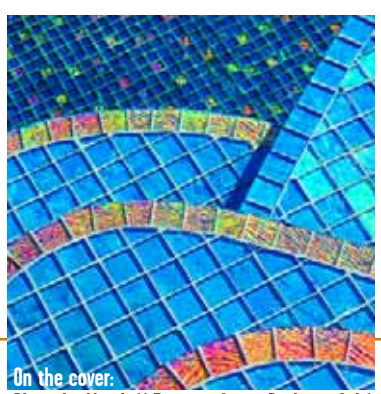

Photo by Macduff Everton, Santa Barbara. Calif., courtesy Vision Design & Watershapes, San Diego, Calif.

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By Eric Herman

Direct Access

More than ever, the Internet is shaping the way we communicate and run our businesses. As I've mentioned previously, this is why we've been working for a year now to enhance *www.watershapes.com*, backing the magazine up with resources and features designed to give you quicker, more convenient access to a variety of important information.

As a prime example, in this issue we welcome you to a better way to get additional information from advertisers in this magazine and from companies appearing in our Of Interest pages. Effective immediately, we will be switching from our old postcard/snail-mail system and graduating to an all-new, Web-based system that will give you easier, faster, better access to details about products and services that catch your eye.

So now, instead of pulling out a card, circling numbers, filling in all sorts of contact information and waiting for replies, you simply go to the Information Express page on our Web site – *www.watershapes.com/ads* – where you will find direct links to supplier sites. In the near future, you'll be able to access additional advanced features that will, among other things, enable you to communicate directly with specific advertisers about products or special offers.

In the magazine itself, we'll still provide a page with an index of our display advertisers and companies that appear in Of Interest, including their phone numbers and Web addresses. But we're also adding a huge dose of modern convenience to the mix.

With the old indexes, you needed to type in a supplier's full Web address yourself and laboriously repeat the exercise for every advertiser site you wanted to visit. Now, all those addresses will be listed on our site with fully active links – all on one page. All you need to do is click on the link and you'll be right where you want to be; then, simply by clicking on the "back" button, you'll return to our site so you can follow up additional links.

It's as easy as can be – all part of the series of upgrades that has added greatly to the value of visiting *www.watershapes.com*. Check it out: There's lots to see!

▼▼▼

In this same spirit of innovation, we're also pushing elements of the magazine's coverage in directions that both inspire and inform across the broad spectrum of the watershaping arts and crafts.

In this issue, for instance, you'll find the first part of a new series of short features by watershaper Paolo Benedetti: Called "Solutions" and appearing in this issue on pages 38 and 39, it's the result of conversations Paolo and I have had about the desirability of the magazine offering focused technical pieces about specific design and construction details.

First time out, he hits the ground running with a discussion of an approach he uses to conceal isolation joints between bond beams and decks – a nifty trick that serves both the structural and aesthetic needs of custom watershapes.

We know you'll find it helpful!

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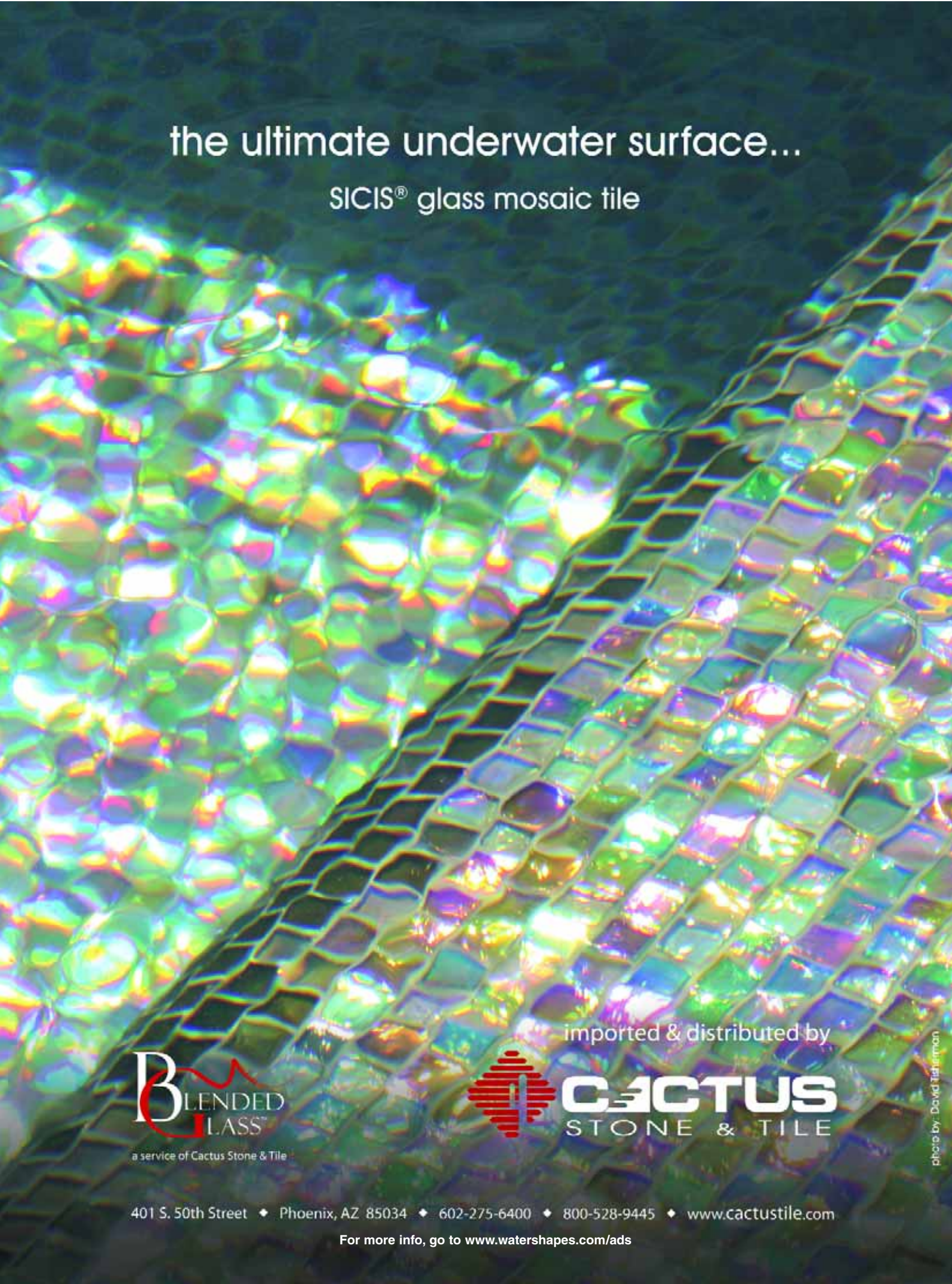
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March's Writers

Rick Laughlin is the owner and principal at Laughlin Design Associates, a landscape design firm catering to residential clients in Salt Lake City. A lifelong student of nature and the arts, Laughlin received a degree in wildlife management from Virginia Tech University and has spent the years since graduation developing a highly personal approach to design that informs all of his client relationships and projects. As a child, he was inspired by his family's love of landscaping, gardening and nature and has always sought fresh ideas through continuing education, voracious reading and extensive travel. He is a member of the Garden Writers Association and the Society of Garden Designers and is also a certified member of the Association of Professional Landscape Designers. Laughlin also promotes the art of landscape design by teaching classes at the Jordan Valley Water Conservancy Garden.

Paolo Benedetti is founder and principal at Aquatic Technology Pool & Spa (Morgan Hill, Calif.) – a firm dedicated to the design and construction of luxurious residential watershapes and exterior environments. He earned a degree in business management from California State University, San Jose in 1984 and has continued his education in watershape design and construction through courses in materials science, art history, architecture, color theory and many other topics. Among his varied accomplishments, Benedetti was one of the first designers to be certified by the Society of Watershape Designers through the Genesis 3 Design Group. He has performed countless forensic case studies involving failed pool structures, consulting for property owners and contractors alike, and is also a prolific writer, having written numerous technical articles for pool

and construction trade magazines, including numerous past contributions to *WaterShapes*. Benedetti is currently an instructor in the Genesis 3 construction schools and is a Genesis 3 Platinum member.

Simon Gardiner is director of creative design for Crystal Fountains, the international waterfeature specialists based in Toronto. An industrial design graduate of the Ontario College of Art & Design, he has more than 17 years' experience in watershape design and project management. He is also the author of "Design Considerations of Water Features," an accredited online course offered by AECDaily.com, an online learning center. Since joining Crystal Fountains in 1998, Gardiner has been involved in some of the company's most challenging projects in North America and beyond.

Kathy Marosz is founder and principal designer for Vision Design & Watershapes, a landscape and watershape design/construction firm based San Diego, Calif. She established the firm in 2006 as a reorganized offshoot of her previous company, Enviroscapes, which she had established in 1997. Marosz has specialized in residential landscape design and construction since 1989, the year she earned her degree in landscape architecture from California State Polytechnic University at San Luis Obispo. She was the first woman to qualify for membership in Genesis 3's Society of Watershape Designers and teaches classes in site analysis and architectural drafting for Genesis 3's design schools. Before entering the landscape and watershaping industries, she was a professional musician and recording engineer.

By Brian Van Bower

Moving in Miniature

One of the clearest trends I've seen in watershaping through the past few years involves the use of water in the front spaces of properties, usually along a driveway or close to the main entrance. It's something I've noticed on both the residential and commercial sides of the business, and these projects really do seem to be gaining traction as more time passes.

In some cases, they might be the only watershape you'll find on site. In others, they introduce a presence of water to be echoed in other parts of the property, front or back. No matter what form they take, architectural or naturalistic, these watershapes serve as lovely, welcoming presences for visitors – or for homeowners happily returning after long hours at work.

Some out-front features make statements to people driving or walking past the property. I've installed several, for instance, near the street on a driveway or in a central spot on an island in a circular drive. I like those designs for the interest they add, but I have to say that I actually prefer those watershapes I've placed close to front doors or main entrances: I like them because my clients and their visitors will spend more time there, and I'm so big on mood elevation that I like the fact that being greeted by this sort of feature has a predictably positive influence.

I've also seen designs where these front-yard features are flanked by benches and become destinations that are every bit as refreshing as similar places of repose located in the midst of backyard gardens. Boil it down, and I plain like the idea of the fronts of homes being *much* more than blank spaces you pass through on your way to the front door.

In good times and bad, the demand for our products exists in part because it's within our natures to want to be in or near bodies of water.

meeting a demand

Lots of design approaches work in these up-front settings.

A feature might be as simple as a small wall-mounted fountain, for instance, or it can be an elaborate, cascading, multi-tiered fountain or a beautifully executed pond. Personally, I like my out-front features to foreshadow design elements found in larger backyard watershapes: Whether simple or complex, the water in front can set the stage for a fuller experience to come in entering a home or a business.

The water in these cases also serves a more primal need: In good times and bad, the demand for our products exists in part because it's within our natures to want to be in or near bodies of water. As I see it, in other words, these front-yard watershapes represent yet another way we can fulfill the basic desire humans have to make water part of their lives.

Indeed, in considering pathways through and around this current economic slowdown, I can't help thinking of these smaller, front-yard watershapes as a bridge to better times: Clients these days may be interested in smaller-scale, purely decorative watershapes if only because they represent a lower-cost means of bringing water into their lives.

This isn't an all-new observation, of course – for years, we've run into prospects with homes on postage-stamp lots who have no alternative to acquiring downsized watershapes – but the fact of the matter is that, for the foreseeable future, these smaller-scale watershapes may be where a good part of the action will be.

Continued on page 12

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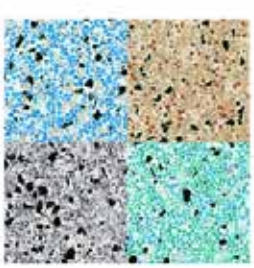

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3M *Innovation*

In point of fact, I see adopting a positive outlook on these street-side watershapes as having a potential that reaches out well beyond current economic woes and as being something we all should have embraced long ago. I've heard people in the landscape trades refer to front yards and commercial entries as the "Last Frontier" in exterior design: If they're even *partially* correct, it's time to get involved.

Taking things a step farther, I would argue that this is a natural progression for those who excel in watershape design and construction: If what we do is all about understanding and applying the greatest possible attention to detail, certainly that principle applies just as much (if not more) to tiny projects out front as it does to big ones in the backyard.

With these small projects, you may rest assured that the details are *absolutely* crucial because every one of them must bear up under closer, more intimate scrutiny: If you execute the fine points in design and construction at a high level, even the most diminutive design can come to life, bring joy to clients' lives and be considered art.

In fact, where given my preferences, I might like all of my projects to be large and comprehensive; these days, however, it just makes sense to conform to the new expectations many of our clients have and start *thinking small*.

going small

In rolling through ideas before writing this column, I realized that I've been doing these small-scale projects all along.

Several years back, for example, I worked on a project that had been designed by Miami-based landscape architect Raymond Jungles. In this case, he used an angled, acid-stained concrete bridge that led directly across water as a means for people to reach a home's front door – a situation in which failure to pay attention to the water and where one might place one's feet could result in a quick dip. There's no choice here, in other words, but to notice the water.

That's an extreme case, but water at the front of a home can completely transform a mundane experience into something very special and worth savoring. And if that's not the definition of what great watershaping is all about, I don't know what is.

I've worked in miniature in my own front yard, adding this water element to accent the street-side entrance to my home office. It's a simple effect, made with inexpensive, off-the-shelf materials on a scale dictated by the compact available space – and it makes a statement about what I do and my ability to develop suitable, site-specific solutions.

In one sense, small watershapes call on the designer to be unusually creative, no matter the location. For example, I've seen a number of small features where various types of objects and artifacts have been inserted to make one sort of statement or another. Some of these items are fairly tacky, but others make very special statements.

Done well, for example, I can even imagine making a rusted plow into a weir of sorts and have water cascading down from it over a steel structure to great effect. In fact, my Genesis 3 co-founder Skip Phillips once used an old livestock feed trough as the core of a small feature: It's quite cool how the water flows over edges that have been gnawed away by animals through years of use – a fascinating repurposing of an otherwise mundane, familiar object.

I recently took a similar approach in adding an entry waterfeature to my home office. The space already had big glass doors that looked out toward my backyard and its all-tile pool, but I also wanted to make a statement at the front door that would demonstrate my firm's' complete, total involvement with water to clients who might stop by.

At first, I'd considered off-the-shelf systems and found many that I liked, but ultimately we decided a custom look was required to be emblematic of the work we do. I spent a good while looking for something appropriate, and one day while trying not to get lost in the maze at my local IKEA, I found a black vase with an interesting, ringed profile I thought might look good with water flowing down across its surface.

I then hunted up a two-foot-diameter basin at a Home Depot (I visit all the trendiest shops!) that would house the system and would also work perfectly with a grill I'd saved from an old Weber barbecue kettle. I dug a hole for the basin, drilled a hole in the bottom of the vase, epoxied flexible tubing into the hole, made sure it didn't leak, hooked it up to a submersible pump in the bottom of the basin, set the vase on the grate and then covered the grate with green river rocks. Presto: I had a small (and, if I do say so myself, simple and presentably elegant) waterfeature.

Interestingly, the most expensive part of the project was the river rock: The entire system cost just a couple hundred dollars and required only a few hours of labor. Best of all, it does exactly what I had hoped it would do by providing the en-

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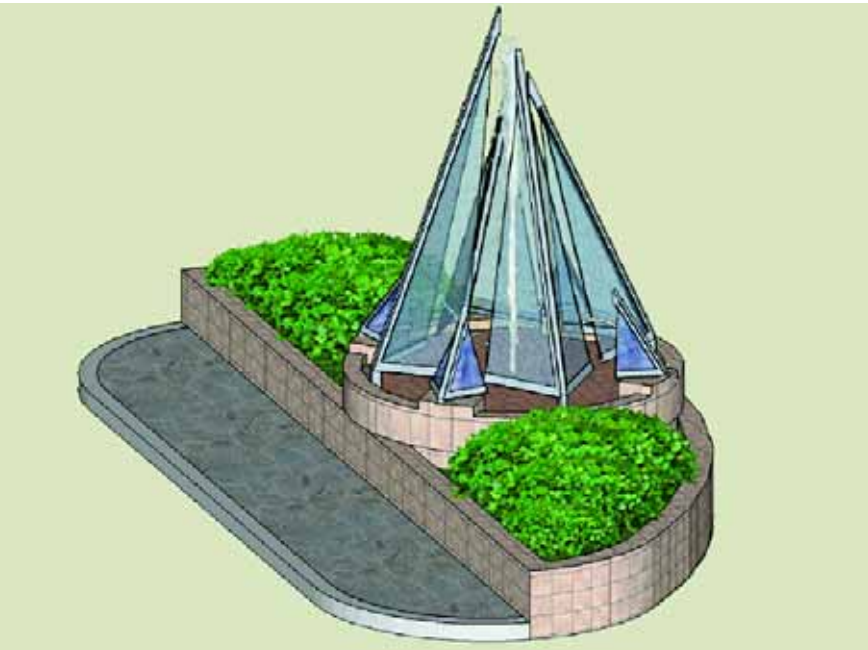
tryway with a significant sculptural statement attached to a subtle use of water.

the commercial front

Of course, the decorative watershapes found in front of commercial properties are typically more involved than the simple system I installed in front of my own enterprise, but the thing they all have in common is that they are about small spaces.

I'm not discussing anything as grand here as the entry fountains at Bellagio in Las Vegas: Such large, elaborate fountains are events in their own right in addition to serving as entry markers. For the most part, watershapes at commercial and residential entries are *much* more modest than that – and tend to be as modest as the little fountain I set up in my front yard: They welcome tenants or visitors with the soothing and alluring sights and sounds of water, and they can be used to echo elements and details found elsewhere in the design.

Illustrating this point, I'm currently involved in a mixed-use office/condo prop-



I've learned through the years that compact spaces often present huge creative opportunities. In this case, a small, very public space required a bold design to call attention to and even define the aspirations of the mixed-use commercial/residential property behind it.

erty in Hamilton, Bermuda. In approaching its watershape, we saw this as an opportunity to turn up the heat and work on an extremely creative level.

We were brought into the project by Linberg & Simmons, a local architecture firm we've worked with on several other projects. They showed us the space and asked us to come up with something special – no further direction beyond the fact that they wanted water and that it should both make a statement and attract the attention of people passing by or entering the building.

That building itself features a beautiful, light-blue-tinted glass and an interesting angled steel structure at the center of the entrance that reaches up to the roofline. Playing off that program, we organized a set of tilting, rectilinear glass panels with water flowing over them and proposed a fire feature for the center of our structure so flames would be seen through glass and water.

The clients weren't immediately keen on the idea of using fire, saying it was too unconventional for Bermuda and asking us to try again. After a few more iterations, we ultimately agreed on a set of pyramidal glass panels that resemble sails for the space. We also included laminar jets that will be shielded from the prevailing winds by the glass.

The point is, our clients' desire for a comparatively small watershape gave our firm a wonderful opportunity to do something truly different from the projects we typically tackle, and it's going to provide them with a beautiful sculptural statement that will enhance their property.

opening up

What I've found through the past several years is that working on small watershapes offers me another set of great creative opportunities. When you consider the economic conditions we're currently facing, firms that make it to 2010 and beyond will be those that adapt their expectations to current circumstances without sacrificing their creative spirit or their commitment to quality.

What I'm saying is that, while smaller projects alone might not lead anyone out of the woods, my sense is that these jobs are worth serious consideration and should be viewed not only as something apart from our usual line of custom work, but also as part of a well-rounded perspective in which we view *any* project involving contained, controlled water as a possibility, no matter the scale. It isn't much of a stretch to see that installing these small watershapes for clients now can be a key to future work! WS

Brian Van Bower runs Aquatic Consultants, a design firm based in Miami, Fla., and is a co-founder of the Genesis 3 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.

By Bruce Zaretsky

Getting Better

Watershapers and landscape professionals have the skills and talents needed to create outdoor spaces that will make life a bit more pleasant for the infirm and their families – not to mention medical professionals as well.

If you've ever spent time in the hospital, you're probably like me in having done your best to forget the experience. Not only were you recovering from some sort of serious injury or illness (or visiting a loved one who was), but you also had to endure the process in an environment that wasn't quite *hospitable*.

Most likely the room you or your loved one occupied was filled by an adjustable bed surrounded by beeping instruments. The walls were putty-white and scuffed, a couple of cellblock-like doors led to the bathroom and hallway – and a worn-out television hung questionably above the bed, threatening to fall on guests sitting in the uncomfortable, motel-room-reject chairs.

Even the air smelled of antiseptic and illness – grim and depressing, to say the least.

And if you were visiting or waiting for someone in the emergency room, then your treat was to sit in a large room packed with other visitors and sick or injured people waiting to be admitted. There you enjoyed an array of five-year-old magazines, but reading wasn't easy anyway because of the soap operas or newscasts blaring out of the television.

On just about every occasion I've been to a hospital, I just can't help wondering: Is this *really* a healing environment? Is this *really* where we want to go to be cured of our ailments or patched up after our accidents?

enough already

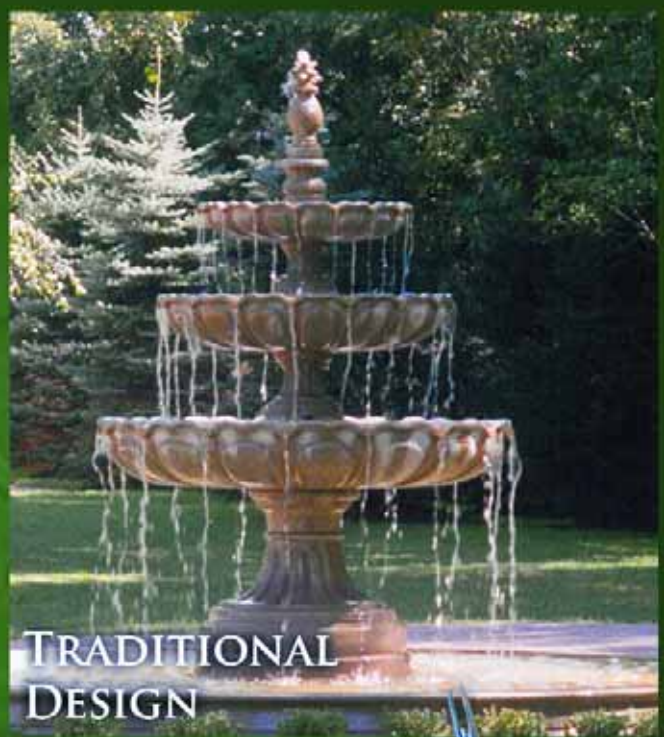
Unfortunately, with rare exceptions these forlorn places are *exactly* where we bring our ill or injured bodies for care and comfort. We may boast the most advanced medical technology and medications and be surrounded by the most accomplished medical professionals on the planet, but the environments where all of this crucial work takes place leave much to be desired.

I'm simply amazed that anybody gets better in these places; moreover, I think it's astonishing that medical professionals in these settings aren't even grumpier than most tend to be. Surely we can do better. Surely we can create environments that will comfort patients and their families and help to make these stressful situations a bit more tolerable.

In my humble opinion, I believe that the entire notion of healthcare facilities could stand some rethinking. There's no escaping the fact that hospitals and other medical facilities are serious places where serious things happen, but that's all the more reason to give some thought to the ambiance and tone that permeate every facet of a medical facility's design.

We don't, as watershapers and landscape professionals, have much (if anything) to offer when it comes to the insides of hospitals, but we *do* have the skills and talents needed to create outdoor spaces that will make life a bit more pleasant for the infirm and their families – not to mention medical professionals as well.

Why not design spaces that people can retreat to as they wait for news about their loved ones – spaces that provide fresh air, pleasant fragrances and sunshine? And while we're at it, why not make these places where we can regenerate and



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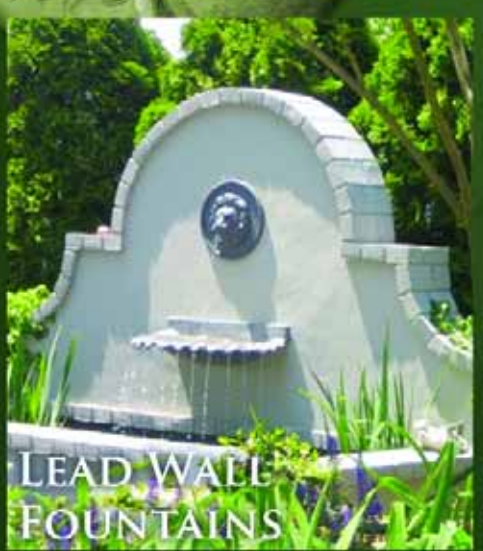

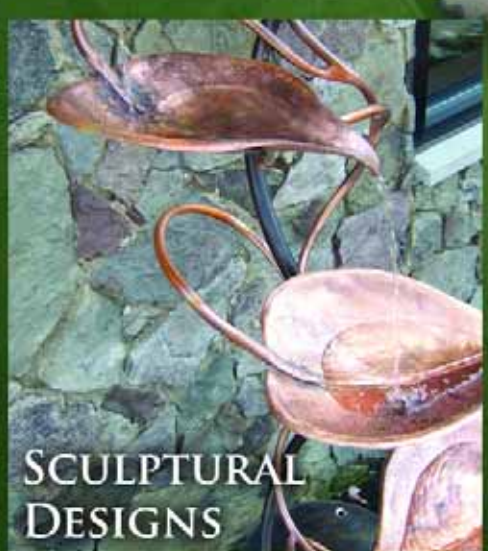

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heal? Why can't they be places for families to pray or mourn or for people just to be alone? Why not make them into spaces where staff can come to catch a deep, stress-reducing breath?

We're all instinctively aware of the healing benefits of being out in nature – and of how much more we crave being in those spaces in times of stress. What we see, what we hear, what we smell – they all soothe us and, in some well-documented cases, actually help the healing process.

In a now-famous 1984 study by Dr. Roger Ulrich of Texas A&M University, patients undergoing gall-bladder surgery were randomly placed in two different rooms, one with a view of a group of trees and the other with a view cut off by a brick wall. Not surprisingly, the patients who looked at the trees had far shorter stays in the hospital, needed less pain medication and were subjects of fewer negative comments among caregivers than were those who stared at the brick wall all day.

That's just one study in a vast collection of similar research on the health benefits of being exposed to nature. Time after time, these studies have the same results: Patients do a better, faster job of healing when they're given access to the natural world.

patient-focused design

A few years ago, I took advantage of a wonderful opportunity and spent two weeks studying garden design for healthcare settings at the Chicago Botanic Garden.

It was the first program of its kind, and we benefitted from studying under pioneers in the field including Clare Cooper Marcus, Roger Ulrich and others who took the time to explain the nuances of designing gardens specific to certain groups of patients, including (among others) people with Alzheimer's, stroke victims, those with head injuries and residents of assisted-living centers.

One of the key points I took away from the course was an affirmation of the fact that what I do for a living benefits more than just my clients: Indeed, it benefits all who come into contact with those garden spaces. I also learned along the way

I am constantly amazed at how different a healing garden needs to be, depending on the intended user group. In this case, for example, the needs of Alzheimer's patients dictated the structure of the space, its simple paths and its clear sight lines.

that what works for one type of patient does *not* work for all others and that we need to tailor designs of these healthcare gardens to the needs of some very specific populations.

In adopting this position, I learned that we take many things for granted in designing gardens. We all have our likes and dislikes when it comes to plants or fragrances, and we might like the idea of creating barriers to entry and any of a number of other concepts that bring life and visual interest to these spaces.

With healthcare gardens, by contrast, understanding the needs of those who will be experiencing the garden is of paramount importance, and it's absolutely critical that the spaces be designed and installed with specific conditions in mind. That may seem an exaggeration, but it's not: Even a tiny deviation in meeting a specific need of the user will render the garden useless or, worse, can even make it dangerous.

Consider Alzheimer's patients, for example. I learned that gardens they will use should never have pathways that will allow them to "get lost." As a consequence, all paths must return by fairly obvious means to the places where they started – and these gardens also need landmarks that help them avoid confusion and navigate these spaces safely. Even plant choices are a factor: Imagine these patients eating what they suppose are "harmless" berries that end up being toxic or injuring themselves on plants with thorns.

I've designed and installed many healthcare gardens in the past 15 years, and one of the things I've always found to be reassuring is that even the gardens we'd designed before I took that course or had ever heard the term "healing garden" actually seemed to work.

A good while back, for example, I was asked to install a waterfeature at a center for emotionally disturbed children. Common sense dictated that we couldn't build a pond or any form of exposed water. What we needed instead was a feature they could put their hands into without exposing them to the risks inherent even in shallow depths of water.

healing power

After a great deal of consideration, I opted to drill a one-inch hole in a pock-marked, 2,000-pound boulder and set it on top of a ground-level basin. We cov-

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This garden, designed for a hospital near where I live and work, was intended for a more general patient/staff population and serves to beautify the grounds as well as offer a variety of spaces for contemplation and repose to anyone who uses them.

ered the basin with a metal mesh that we then topped with the same gravelly stone we'd used for the rest of the garden – a cost-saving measure in a project funded entirely by donations.

A small submersible pump made water emanate from the top of the boulder and gently trickle across and down its various faces – enough flow for touching and interaction but never enough accumulation at any single point to present any sort of hazard. This simple feature actually became the facility's centerpiece – and area used not only by the counselors and their patients, but also by the families of the children being treated.

Another important point I picked up during the Chicago course is the recognition that, as watershapers and garden designers, we create spaces in which lots of people heal in one way or another – and that this is true of almost all settings that bring people in contact with the natural world.

Take the client who has a bad day at the office and comes home to enjoy a glass of wine while sitting out in the garden: By definition, that's a healing space. The same holds true when a person who has lost a loved one goes for a solitary walk in the park: The designer may not have intended it, but that space is, by default, a healing garden.

It was widely reported that, after the World Trade Center was attacked in 2001, there were long lines outside the Brooklyn Botanic Garden and that Central Park was overflowing with mourners. Faced by devastation so close at hand, all of those people felt a need to get out into nature to regroup and soothe their minds. Just knowing that, as designers, this is a basic part of what we're all about is incredibly empowering.

In such a context, making our gardens suited to soothing, healing purposes becomes even easier when we're fully informed as well as aware of what we're trying to accomplish.

Doubling back to healthcare facilities, we need to be sure that if we are designing for a specific type of user – that we are considering the needs of, say, the wheelchair-bound or visually impaired. That list of interests to be served gets long in a hurry, and great care is required if the space is to be used (and used *safely*) by those you're trying to help.

More on that next month, when I'll complete this discussion with a look at some of the specifics involved in designing garden spaces with various medical conditions in mind. WS

Bruce Zaretsky is president of Zaretsky and Associates, a landscape design/construction/consultation company in Rochester, N.Y. Nationally recognized for creative and inspiring residential landscapes, he also works with healthcare facilities, nursing homes and local municipalities in conceiving and installing healing and meditation gardens. You can reach him at bruce@zaretskyassociates.com.

By Dave Peterson

Speaking the Language

As is true of many business sectors, the architecture, engineering and construction industry (commonly and conveniently abbreviated as A/E/C) has its own language – and the construction documents generated by those professionals (watershapers very definitely included) are the medium through which everyone communicates.

The challenge for watershapers is that we've come to the table a bit later than most other members of the A/E/C community, so we have some catching up to do. Fortunately, the National CAD Standards I've been writing about during the past year or so (in the December 2007, May 2008 and August 2008 issues of *WaterShapes*) offer strong support to those needing to get up to speed.

This time out – the last part of my coverage of the ABCs of the NCS – I'll provide you with an overview of a cluster of modules (Terms and Abbreviations, Symbols, Notations and, finally, Code Conventions) that are all about a common language that, when applied, not only helps watershapers work with other project professionals but also assists in communications about regulatory information with "authorities having jurisdiction" (AHJ) over the project.

As I've stressed repeatedly throughout this series, the concepts presented in the NCS are not limited in utility to those who work primarily or exclusively with computer-assisted design (CAD) systems. Even hand-drafters, after all, need to speak the same language as their colleagues!

The concepts presented in the NCS are not limited in utility to those who work primarily or exclusively with computer-assisted design (CAD) systems. Even hand-drafters, after all, need to speak the same language as their colleagues!

coming to terms

When I first read the table of contents in the NCS, I found myself thinking "Why do they need 178 pages for terms and abbreviations?" Even considering the number of possible alternative abbreviations, that total represents almost 20 percent of the overall page count and seemed a bit of overkill.

The plain fact, however, is that there are *lots* of duplicate or overlapping terms and abbreviations already in common use. The mission the NCS undertook was to boil all of the possibilities down to officially accepted usages that work and can be applied by all of the disparate functions contained within the vast A/E/C industry.

In running through the list, I encountered a few persistent duplications. ALT, for example, can refer to "alternative" or "altitude," with the correct meaning dictated by context. In another case, context was obviously the key: COP is used for both "coping" and "coefficient of performance" (a heating term): I don't think anyone looking at a set of plans would ever be confused enough to think that a term directed at a watershape's perimeter material would be the heating term.

Many of the abbreviations are acronyms that shorten common references into more convenient units. Some of these, at least the first time around, will need some clarification as you review construction documents. For example, if "OF/CI" is pointing to the coping, competing contractors need to know what the abbreviation means if they want to place a proper bid on the job.

If the construction documents themselves don't carry a list of abbreviations (most do as a matter of convenience), those bidding contractors risk both low- or high-bid problems if they don't know that OF/CI means "owner furnished/con-

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tractor installed." In my practice, our plans include tables of these terms, including a number we've made up for specific watershaping terms not defined by the NCS – including SKM, which we use to denote skimmers.

A particularly interesting section of the terms and abbreviations module is a list of what the NCS calls "preferred terms." Helpfully, this one is organized alphabetically by *non*-preferred term, so you're quickly guided to the right one instead of having to hunt for something unfamiliar.

A few notable ones are of interest to watershapers: We are asked, for instance, to use "gage" instead of "gauge," "GFCI" instead of "GFI," "cast-in-place" instead of "poured-in-place," and "reinforcing" – that is, REINF – instead of either "reinforcement" or "reinforcing bar." None of these abbreviations use any sort of punctuation (no apostrophes, periods or other symbols) and are rendered exclusively in all-capital letters.

ABBREVIATIONS AND TERMS

ABBRV	TERM	ABBRV	TERM	ABBRV	TERM	ABBRV	TERM	ABBRV	TERM
&	AND	CPLG	COUPLING	H	HEIGHT OR HIGH	PA	PIPE ANCHOR OR PLANTER AREA	STIR	STIRRUP
∠	ANGLE	CSI	CONSTRUCTION SPECIFICATIONS INSTITUTE	HB	HOSE BIBB	PB	PULL BOX	STRUCT	STRUCTURAL
@	AT	CSLB	CONTRACTORS STATE LIC BOARD	HDPE	HIGH DENSITY POLYETHYLENE	PCC	PRECAST CONCRETE	SUCT	SUCTION
℄	CENTER LINE	CT	CERAMIC TILE	HL	HARTFORD LOOP	P.E.	PROFESSIONAL ENGINEER	SW	SWITCH
°	DEGREES	C TO C	CENTER TO CENTER	HOA	HAND-OFF-AUTOMATIC	PERF	PERFORATED	SWR	SEWER
Ø	DIAMETER	CTR	CENTER	HORIZ	HORIZONTAL	PERIM	PERIMETER	SYMM	SYMMETRICAL
℄	FLOW LINE	CU	COPPER	HP	HORSEPOWER	PG	PRESSURE GAGE		
#	NUMBER OR REBAR SIZE	CU FT	CUBIC FEET	HR	HOUR	PH	PHASE	T&B	TOP AND BOTTOM
±	PLUS OR MINUS	CU YD	CUBIC YARD	HT	HEIGHT	pH	ACID/ALKALINE SCALE	T&G	TONGUE AND GROOVE
℄	PROPERTY LINE			HVAC	HEATING, VENTILATION, AND AIR CONDITIONING	PL	PROPERTY LINE	TB	THROUGH BOLT
		D	DEEP OR DEPTH	HW	HOT WATER	PLBG	PLUMBING	TBD	TO BE DETERMINED
A	AMPERE	DAM	DAM WALL			PLYWD	PLYWOOD	TBM	TEMPORARY BENCH MARK
AB	ANCHOR BOLT	DBL	DOUBLE	ID	INSIDE DIAMETER	PN	PART NUMBER	TD	TRENCH DRAIN
ABS	ACRYLONITRILE BUTADIENE STYRENE	DCL	DEDICATED CLEANER LINE	IN	INCH	PNL	PANEL	TDH	TOTAL DYNAMIC HEAD

In our construction documents, we include a list of all abbreviations used along with expanded texts that clearly define what each one means. We include this on boilerplate sheets that cover other symbols and general information.

Interesting, the NCS doesn't particularly encourage the use of these abbreviations but recognizes that space and time are issues and that shortened forms of reference can be useful – so long as the usages are consistent, clearly understood or, where terms of abbreviations are unfamiliar, clearly defined in the construction documents themselves.

heiroglyphics

While the Terms and Abbreviations module addresses written language, the Symbols section defines a standard graphical language consisting of about 1,500 examples. These symbols represent objects, materials, finishes or general information (bar scales, north arrows and the like) that have become acceptable by virtue of association, resemblance or convention.

The symbols may be scale-dependent or scale-independent according to the circumstances. As an example, one scale-dependent symbol is a suction outlet drawn in plan view: It may simply appear as a circle with "SO" written in it, but the circle itself should be drawn to scale with a diameter that approximates the true diameter of the installed suction-outlet cover.

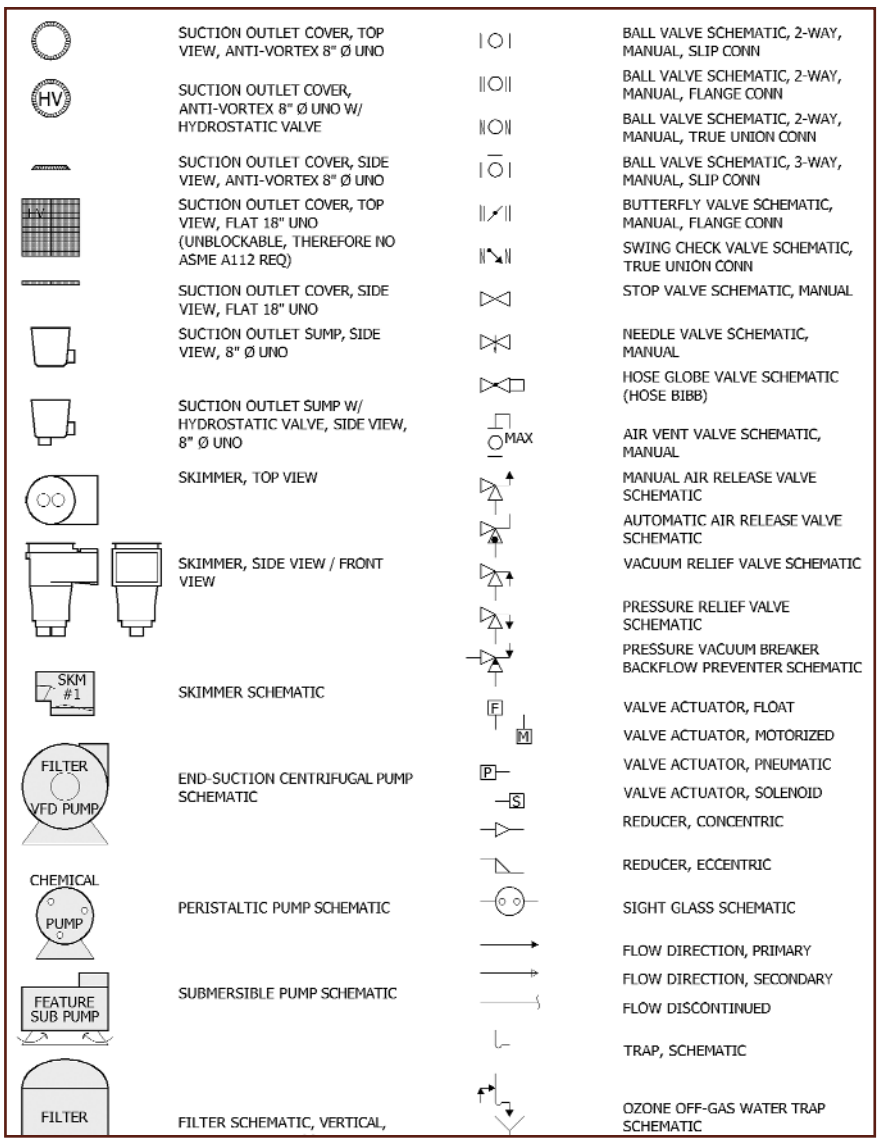
This observation of scale is important because the size of this particular symbol can have very real safety and legal consequences related to size, flow rate, separation from other suction outlets operating with the same pump and more. (Note that I use the term "suction outlet" and the abbreviation "SO": I've always disliked the term "main drain" because there is nothing "main" about one, and it doesn't "drain" anything anyway!)

On the flip side are a number of scale-independent symbols, including the cross-hatched lines used to indicate soil. In this case, the size of the gaps in the cross-hatching is mostly irrelevant (although it sometimes "looks" out-of-scale). In addition, this particular symbol is a longstanding convention even though it bears no resemblance to how soil actually appears.

Some details straddle the dependency line. Patterns of random stone, for instance, can be scale-independent in some cases but might be scale-dependent when used to define the expected finish of a feature such as a cobble-lined rill or an elaborate deck treatment.

The symbols were all compiled and organized using the Construction Specifications Institute's MasterFormat system and are broken down according to usage by A/E/C trades. Division 3, for example, is all about Concrete, while Division 4 is Masonry and Division 5 is Metals. (In a future column, I'll be covering the ins and outs of written specifications and will discuss CSI and its role in all of this.)

At this point in my own practice, there are many symbols we use from the NCS library: Version 4.0 includes almost 1,300 of them, all ready for use in AutoCAD format. We have also created many more of our own in the belief that the watershap-



Here's a partial list of our most commonly used symbols, terms and abbreviations. Again, this is included on boilerplate sheets along with other symbols and general information.

ing industry needs a unique hieroglyphic language to indicate our specific equipment, details and processes.

making notes

The next module in the NCS rotation covers Notations – a specific, consistent method of adding information, identifications and instructions to our drawings. Until fairly recently, documents carried few comments, while text was basically limited to dimensions and material callouts. As projects have become more and more complicated, however, it has become necessary to add much more textual information.

As events would have it, I think the addition of text has reached a level of overkill and what should be clear and useful has become quite verbose and convoluted. To be sure, we use written specifications, but we exercise some restraint and try to cover the bulk of these instructions using notes that appear right on our drawings.

I see these written notes as a tremendous tool. They're easy to add, but I find (based on the hundreds of plans we've seen through the years) that they're not being used much by watershapers. I think this may be a result of the design-build nature of many watershaping projects and of contractors who therefore believe it's a waste of time to write down a note for something they know will get done during construction because they themselves will be handling things.

As I see it, such an approach might be acceptable if the builder in question is hands-on with the job every day and is not trying to run multiple projects simultaneously. For everyone else – and *anyone* who subcontracts work to others – notes may be the best and easiest way to provide legally binding guidance for in-house staff and subcontractors. I'll get to some examples below, but let's talk about the different types of notes first.

The NCS defines five different note forms: general, general discipline, general sheet, reference keynotes and sheet keynotes.

- *General notes* are those that appear at the front of the drawing set and may include boilerplate messages such as "Subcontractors are responsible for removing trash generated by their work" or project-specific requirements such as "There is a mandatory weekly meeting with the owners every Monday at 10 am for all primary and subcontractor project managers and supervisors."
- *General discipline* notes are those that appear at the front of the specific discipline's drawing set. For example, the watershape series of drawings that begins with sheet W-001 might include a note that requires "All vessels shall not leak." (In many of our projects, the W-series of drawings stand alone for permit reasons, so there is really no distinction between general notes and general discipline notes because there is only one discipline involved.)
- *General sheet notes* are specific to the sheet on which they are included. Our single-line schematic diagrams, for example, include a statement that the drawing is not to scale and that no dimensions may be inferred by measurement. We do this so that builders who might be tempted to treat our diagram as a section view will not start thinking they can estimate a pipe's length from what is seen on the sheet.
- *Reference keynotes* link items on drawings to specific sections of the written specifications. We don't find ourselves using this option very often; instead, we list all the specifications on the title page

The WaterShapes Interviews

Ideas...insights...inspiration

Skip Phillips:

How Pool Builders Can Avoid Being Sued

Skip Phillips—owner of Questar Pools in Escondido, Calif., and one of the founders of The Genesis 3 Design Group—has served as an expert witness in more than 300 lawsuits involving pool construction. With that vast experience under his belt, Phillips reveals how pool builders can lower the risk of winding up in court.

Greg Wittstock:

Turning a Hobby into a Multimillion-Dollar Business

Greg "The Pond Guy" Wittstock discusses the growth of Aquascape, the phenomenally successful waterfeatures company (approximately $60 million in annual revenues) that he founded in 1991—plus his business philosophy and how people react to his larger-than-life persona.

Bruce Zaretsky:

Taking Sustainability Beyond the Buzzword

Sustainability is a hot buzzword in the world of landscaping these days, but Bruce Zaretsky—owner of Zaretsky and Associates, a landscape design, installation and consulting firm near Rochester, N.Y.—is no Johnny-come-lately to the subject. Zaretsky talks about his long-standing passion for sustainable landscaping.

Go to www.watershapes.com and click on Interview.

WATERSHAPES ONLINE

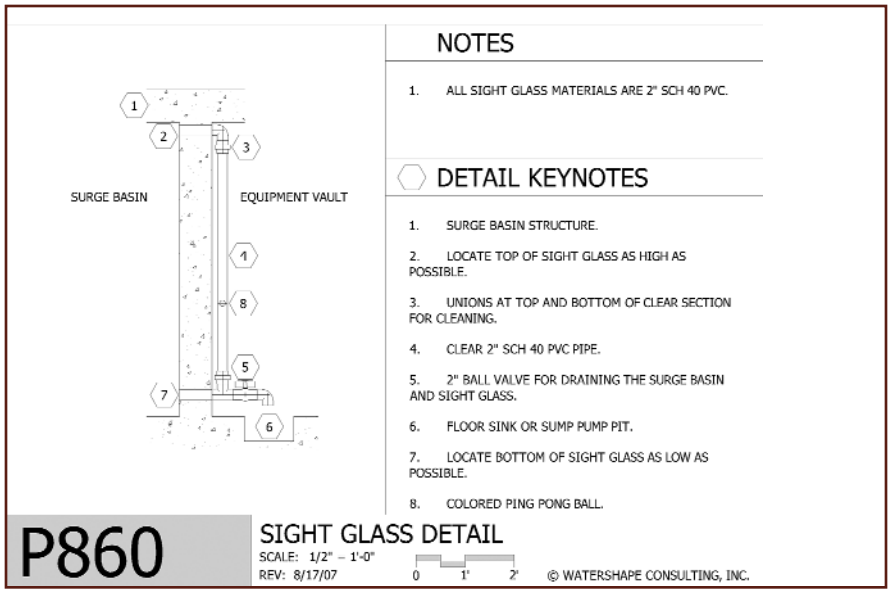
under the drawing index so that the contractor is aware that there *are* written specifications and that they take precedence unless noted otherwise (more on this in a future column).

◗ *Sheet keynotes* are one of my favorite tools. The concept is simple: Instead of noting something along the lines of "Glass tile, Sicis Iridium, equal blend of Mint 2, Mint 4" in multiple locations in the plans, we'll note it just once with a reference number in a hexagon, then replicate that hexagon and reference number wherever the note applies.

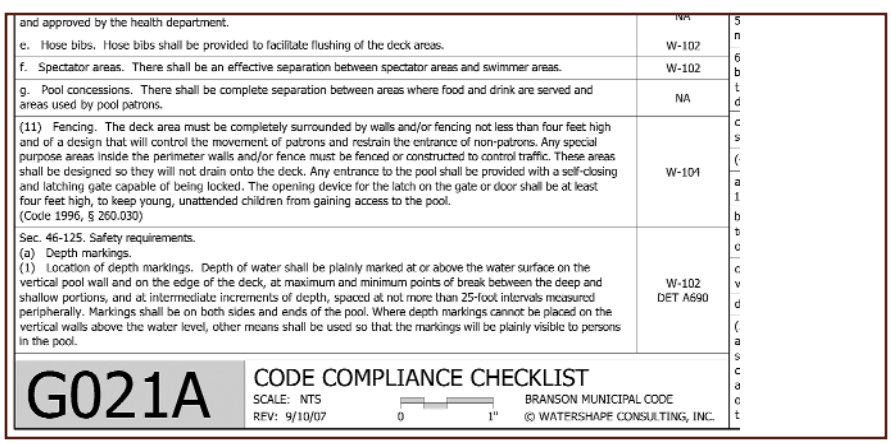
There are many benefits to using sheet keynotes, including the enhanced clarity and readability of plans. In addition, you need to document the specification only once, so if a change is made it does not need to be repeated. You can also consolidate multiple instances of the same note, thus increasing the speed and efficiency of drafting and making for easier copying and pasting of keynotes from one page or project to another. In fact, some of our keynotes are used so frequently that they exist in perpetuity in the master drawing file we copy and use to start each new project. This means we are literally recycling these keynotes across *many* projects.

The hexagon in which these notes are contained has a specific size defined by the NCS. In AutoCAD, we set up a block that has the text as an "attribute." What that means is that, whenever we need to drop in a keynote, we just insert the predefined block (not surprisingly called "KEYNOTE") wherever we want and a box prompts us for the reference number. We then type in the number and hit enter, which completes the insertion and automatically centers the text within the hexagon. If necessary, we just double-click to edit.

The actual keynote list doesn't need the hexagons. In fact, we keep it really simple by adding one to the title block to distinguish the list from the general notes above it. These notes are always listed on the right side of the sheet or the individual detail, and because the list is simply a series of enumerated items or paragraphs, it is extremely easy to modify as necessary. Better yet, there is no mandated order to the keynotes, so if something new is needed, it's just inserted at the bottom of the list.



The concept of general notes and keynotes is illustrated in this example of a detail. The same approach applies for whole-sheet plans, elevations, section views and more.



This is a partial Code Compliance Checklist for a large commercial project. In this case, the plan checker was able to review this complicated project, 26 sheets in all, in very little time and with few corrections.

hacking the code

Last but not least in this discussion, if you have ever been frustrated because a plan checker's corrections list requested information that is already on the plans, you might find relief in one final part of the NCS: It's the Code Conventions Module, and it provides guidelines for identification, organization, and documentation of regulatory information in your plans that will, one hopes, expedite both the design and permit-review processes.

Many of the topics are specific to buildings (general information, room-by-room emergency egress patterns, accessibility issues and the like), and most watershape projects do not require these considerations – unless, of course, you build indoor projects, in which case there's great value to this part of the NCS.

We've used this module as a springboard for developing our own Code Compliance Checklist. We essentially established a table in our drawing set that lists the health department's requirements in one column. In a second, we indicate the relevant sheet and detail number (as applicable) where the specific requirement is handled.

We generate these checklists by copy-

ing a specific county's code from its Web site directly into our table, then refer to it and update the checklist throughout the design process. The list usually occupies a bit more than a full D-sized (24-by-36-inch) sheet – a bit daunting in appearance but incredibly useful just the same.

As I have mentioned repeatedly throughout this sequence of articles and columns, the National CAD Standard is not required by law or code, but it still has much to recommend it to watershapers. As I see it, the real value is that you don't need to reinvent something that teams of people have already established through years of coordination and consensus. Better yet, our increasing familiarity with its provisions raises watershapers' standing within the A/E/C community and makes it much easier for us to fit into project teams.

In that community spirit, I'm pleased and proud that I've been getting plentiful feedback from watershapers who've read these discussions of the NCS and are starting to look at their drawings from both technical *and* development-process viewpoints. There is method to this seeming madness, and it's encouraging to learn that many of you are coming along for the ride! WS

Dave Peterson is president of Watershape Consulting of San Diego, Calif. He's been part of the watershaping industry since 1994, starting his own firm in 2004 after stints with an aquatic-engineering firm and a manufacturer. A registered civil engineer, he now supports other watershape professionals worldwide with design, engineering and construction-management services and may be reached via his web site, www.watershapeconsulting.com.

Point of Order

To this day, most watershapes are contracted as design-build projects in which the contractor is held responsible for execution and workmanship.

This is in distinct contrast to the more widespread design-*bid*-build process pursued in other sectors of the architectural/engineering/construction (A/E/C) industry, where architects and engineers define performance requirements, physical qualities and standards of workmanship – and projects then go to bid among firms that compete to install equipment, assemblies and systems defined in the design process.

This distinction has much to do with why most watershapers, while they may be familiar with the use of notes in drawings, have managed to avoid involvement with detailed, written specifications. That picture is changing as projects become more sophisticated and integrated: Design-build may still dominate, but in years to come it will increasingly be important for watershapers to learn the language of our A/E/C colleagues and adhere to their communications practices and standards.

– D.P.

Echoes of Influence

In working to infuse his projects with sensitivity and passion, Salt Lake City-based landscape designer Rick Laughlin draws on a close observation of nature, a passion for the fine arts and the work of the masters of landscape architecture and water-shaping. In addition, he says, his personal history fuels his work – a perspective he illustrates with a pair of projects that reflect his particular love of Japanese gardens.

By Rick Laughlin

I've always believed that creativity is a direct result of our ability to embrace the ways we are influenced by others.

In my case, I grew up in Virginia in a family deeply involved in the art of landscaping. My grandmother was a master gardener who had an amazing ability to craft beautiful outdoor spaces – a skill and affinity she passed down to my father, who shared it in turn with my mother. In addition, I had an uncle who ran a spectacular nursery we'd visit several times each year.

It's no exaggeration to say I grew up in the culture of the garden. Even as a child, I remember taking great pride in the fact that our home had the most beautiful landscape in the whole neighborhood. Throughout those years, I was constantly exposed to gardening on an extremely high, artistic level – and ever since, my love and appreciation of this part of my life has only grown stronger.

These days, I run my own landscape-design firm in Salt Lake City and am always trying to convey in my work the same level of passion and sensitivity as did my parents, my uncle and my grandmother. They taught me that landscape design is an

intensely personal (even intimate) act and that the only way to be truly successful in creating beautiful spaces is to put your entire heart and soul into every project.

NATURE'S ARTISTRY

The range of influences I bring to the process now reaches far beyond the fact that I was immersed in gardens and gardening as a child. As is true of many others in this field, for example, I've been deeply influenced by countless hours and days spent out in the wild, observing how nature works.

This, too, began when, as a young boy, I visited the rural areas of North Carolina and Pennsylvania where my grandparents lived. It continued when I moved west after graduating from Virginia Tech University with a degree in wildlife management, and I've since fallen completely in love with the natural beauty of the western United States and have hung around ever since.

It's no overstatement to say that my experiences in nature have deeply influenced all aspects of my life, both professional and spiritual. I'm constantly mindful of and humbled by the time I've spent in the presence of spectacular geological formations, deep forests, soaring mountain peaks and the panoply of nature's watershapes.

I've also had numerous experiences with wild animals and at times have been faced with life-threatening situations in the company of bears and mountain lions and even a bull moose. Although such occasions are truly frightening, the level of respect I've developed for the majesty, diversity and sheer power of nature defies full description here.

Along with the sheer joy that came (and still comes) from spending time in places such as the mountains of central Idaho or the vastly diverse ecosystems found in Utah, my experiences have also served me as a sort of perpetual classroom in which I've studied the intricacies of nature up close.

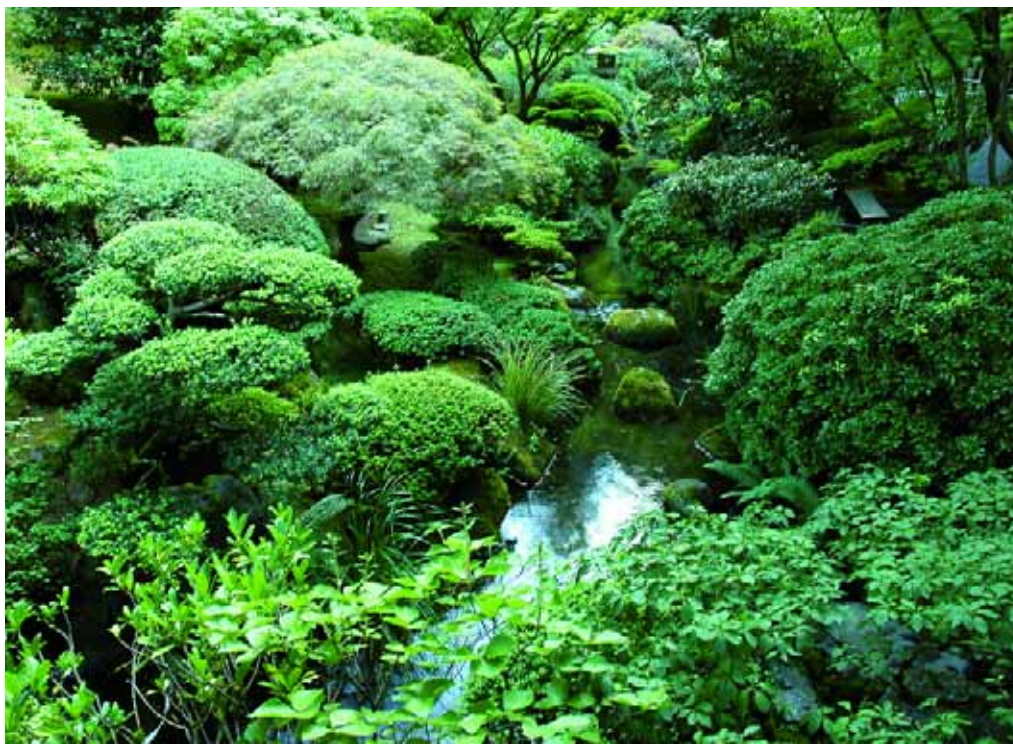
The repetition of forms, the random deviations, the diversities of texture and color, the play of light, the effects of seismic activity and erosion – all of these are always in my mind both as I stride through forests *and* as I strive to replicate features of those natural settings in built environments.

During my years of studying nature, I've also developed a passion for photographing the landscape. My goal is to capture not only the physical aspects of natural spaces as reminders of what I've seen, but also to take photos that capture the mood of a place. That's difficult to do. At times, in fact, it's an entirely elusive goal, but when it works, there's nothing like the rush of taking a picture that forever illustrates the ephemeral essence of a natural landscape.

My life, in sum, has taught me that understanding nature requires sensitivity and openness. As a result, I've become extremely methodical in the way I approach nature, accepting the fact that it sometimes generates emotions that can't be captured, conveyed or reproduced – but that other times there are lessons to be learned and translated to my own projects as nature reveals itself for remarkably specific study.

HUMAN TOUCHES

Along a completely different vein, I've also been deeply involved in support of the performing arts in my area and have had the pleasure of seeing countless symphonies, ballets, plays and musical performances. Along the way, I've met a



Among all the spaces that have inspired my design work, the Portland Japanese Garden in Oregon (seen in these four images) is among the most significant: It transported me to another time and place – and traces of it can clearly be seen in many of my projects, including the two highlighted on the following pages.

number of famous performers, composers and writers.

These contacts and experiences have led me to see that *all* art is linked in one way or another and also triggered my sense that my own work falls under a much broader artistic umbrella. Landscape design is *not* a performing art, obviously, but there are similarities in that I present distinct, creative ideas to an audience consisting of my clients. Instead of leaving home and traveling to a venue, these clients experience my landscape – my art – as part of the fabric of their daily lives.

This is why, at root, I view the work I do as such an intimate, entirely personal undertaking.

Atop that, I recognize the influence of the designers whose work I've studied. Thomas Church, James van Sweden, Anthony Archer Wills and various masters of Japanese gardening have all served as sources of infinite inspiration and specific design insight.

I first met Archer Wills in 2001 at a conference staged by the Association of Professional Landscape Designers in Tucson, Ariz. To that point, I lacked a certain sense of direction, but in listening to his awe-inspiring presentation, I decided then and there to move headlong and passionately into my career in landscape design. He and several others I met at that meeting infused me with a burning desire to bring all of my life experiences to the process of working with landscapes and different forms of watershapes.

Literally, it was as if everything I'd experienced to that point in my life fell into line: I decided to raise my own bar and become as much an artist as I possibly could.

That experience in Tucson was also significant in prompting me to set aside the books I'd collected and get out on the road to experience the works of master practitioners in person. One particular highlight was a trip to the Portland Japanese Garden in Oregon. As you've seen in the images that have accompanied the main text of this article, it's a near-magical space: Even though it covers only five-and-a-half acres or so, it's a place that transports you to another world.

I carefully photographed much of the garden and have returned to those images countless times.

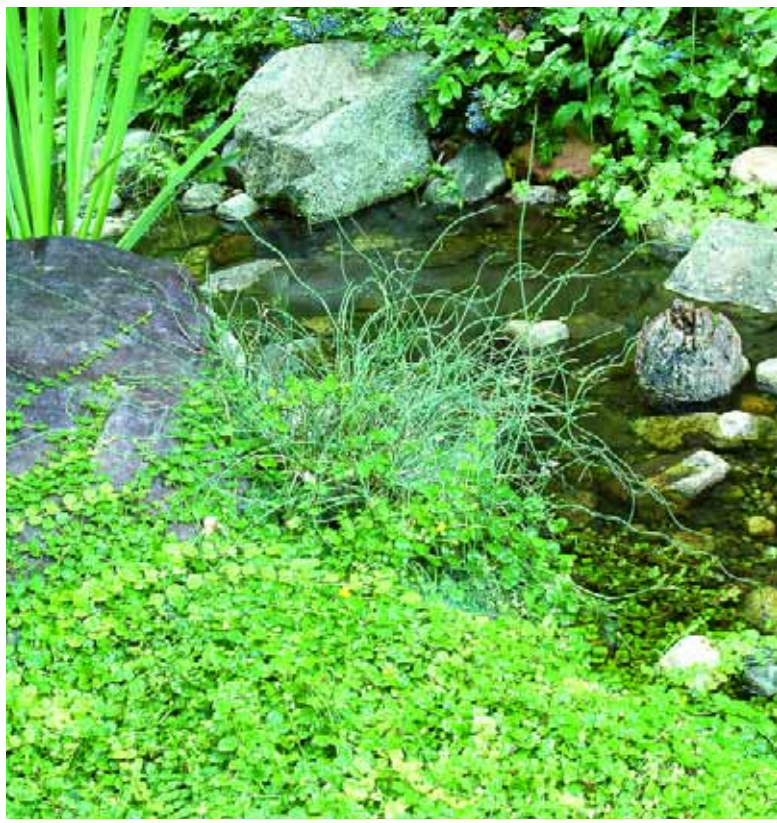
I love all forms of garden design, but Japanese gardens in particular keep inspiring me. The lessons they offer with respect to the organization of space, the use of textures and forms, the borrowing of distant views and, of course, the artistic use of water simply cannot be matched. If there's one principle of Japanese gardening that I try to use in every project – in a Japanese style or not – it's the one that sees me organizing spaces so that you don't see them all at once and instead have your curiosity piqued and can develop a sense of an unfolding mystery.

PERSONAL PROCESS

All of these experiences and influences have led me to a precise approach to design in which I break my considerations into three interrelated, yet distinct parts: a sense of place, an appreciation of architecture and awareness of the unique characteristics of my clients.

On that scale, every single project is different: All of those elements interact differently depending on the situation, and it always seems to work out because I never lose sight of the clients and their

Continued on page 36



Culminations

The project seen here (and on pages 30 and 1) was one of the first I tackled following my fateful 2001 trip to Tucson.

In approaching the home's front entrance, you move under a large, mahogany pergola that sets the stage for a garden experience that begins just around the corner in a space that links the front yard with the back. From the entry landing, however, visitors only *hear* moving water and know there's some sort of garden area nearby, but they can't *see* it just yet: To start their journey, they must follow a path that disappears around a mass of vegetation.

The gardens sweep around the house from there, carrying visitors along various pathways and through a series of distinct garden rooms that unfold like vignettes featuring plant combinations, stone and various sculptures. The areas are linked aesthetically by variations in texture conveyed particularly by the plant material: We used everything from groundcovers with extremely diminutive leaves to bolder plants such as iconic Japanese maples, and there are dozens of plant species on display, each one adding something to its particular setting.

Water is the primary unifying element for the different garden rooms. There are two streams, one about 100 feet and the other about 20 feet long, and both feed a small Koi pond. The longer stream passes through a slight grade change and has a soothing, gentle flow. The shorter one experiences a greater elevation change and features a number of small, gurgling cascades. A small patio overlooks the pond and serves as point of origin for pathways that wind through the space. If you take the path that follows the shorter stream, you eventually reach the pond – a wonderful, colorful discovery at journey's end.

The idea here was to create the impression that the streams had cut their way through the landscape. By using a variety of plants and stones that interact with the stream, there's a visual tension that enlivens the garden and creates a sense of endless variety, all of which essentially invites you to keep moving to discover even more.

Another key area is a small, intimate courtyard that's surrounded on three sides by the house and large windows and doors that overlook the garden from the master bedroom. The owner wanted an intimate retreat, and together we came up with a plan that uses a number of plants and various types of stone to create a dry streambed of the sort found in Japanese gardens. The measure of her affection for this particular space is seen in the fact that she's added several plants on her own along with some sculptures she's found.

needs and desires as I move forward in formulating a given design.

Indeed, the clients are so important that I've developed a five-page list of questions I use in interviewing them. These sheets provide me with a variety of cues I can use, from details of their travels and tastes in art to their childhood experiences and ideas about how they plan to use their gardens among much more. These sheets tell me what makes my clients tick; they also give me a clear sense of whether or not we're going to work well together.

Once I have this information in hand, I spend a great deal of time in the space, evaluating it relative to what my clients have told me. I deliberately soak in all the sights, sounds and smells, and each time I go back, it seems that I observe things I hadn't sensed before. That's when my design concepts really start to take form.

The best projects, the ones that generate the most creative ideas, are those, I believe, in which the clients take an active role in design development. This is why, through the years, I've become very selective in deciding which projects I'll tackle: Input from clients always leads me to very specific visualizations and sets of design elements, and if my counterparts are anything less than fully engaged, the process simply doesn't work as well as it should. On the flip side, when the clients get involved, they're far more likely to develop emotional attachments to their gardens and ultimately will do better jobs of maintaining these spaces as time goes by.

Also, establishing a positive rapport is crucial in that clients must become accustomed to my presence in their lives for extended periods of time. Great gardens, even small ones, don't appear in a matter of a few days: The process takes time to unfold, and for me to do my best work, I have to feel comfortable absorbing everything on the property.

This is such a focus for me that, as is true of other landscape designers and watershapers I know, I become close friends with many of my clients. Not only does this make the process more pleasant, but it also helps in that I feel free to revisit gardens months or even years later to see how the choices we've made are withstanding the tests of time.

ALWAYS SEEKING

One of the most gratifying elements of that journey I've undertaken is that I've discovered that I'm not alone on this path. I've had the pleasure of meeting many others who are, in their own ways, on similar voyages of exploration. And I'm always gladdened by interacting with friends and acquaintances, new and old, who are happy to share what they know. This camaraderie is yet another cherished item on the list of life experiences I bring to the design process.

Although everything in what I do is about influences – parents, relations, colleagues, nature, design masters, clients, architecture and travels to great gardens – what I enjoy most about recognizing this background is the fact that it imposes no limitations on what I do or can imagine: My projects always seem to lead me in new and different directions, and, 15 years into my personal journey, I am still and will always be learning – and translating what I discover to my clients and their projects.

I couldn't ask for more.

Visual Access

This project is quite different from the first with respect to both its layout and overall function.

Interestingly, the focus in this case shifted once the design process began: The space seen here – a side yard – wasn't under consideration because my clients were concerned mainly with the front yard. Once they saw what I suggested for this small space, however, they completely transferred their attention to that area, and it's now their favorite among all of the home's exterior areas.

The garden begins just past a custom fence and moon-gate treatment at the sidewalk on one side of the lot. The idea was to create the illusion of enclosure and privacy while in fact allowing passersby to see clearly into the garden beyond the fence. Also, I'm always looking for ways to link architecture with gardens, and in this case, a main window looking out from the clients' office is on axis with the gate.

I spent a great deal of time developing the fence and gate, which is something of a synthesis of structures I've seen in person and others I found in *Japanese Garden Design*, a book by Marc Peter Keane (Charles E. Tuffe Co., 1996). I'm a voracious reader, and Keane's discussion of Japanese gardens is truly outstanding. Images in the book not only infused my thinking about the fence and gate, but also inspired the stone path that leads to a blue stone patio adjacent to the house.

The trick with this design was to find a way to make it look bigger than it actually is. To that end, I used forced perspective: As you pass through the gate, you encounter several large plant and stone elements; in the garden beyond, however, the plantings and stones gradually become smaller to create an illusion of space. That effect is advanced further by the path, which starts out wide and then narrows as you round a small bend on the way to the patio.

I include some form of water in as many of my projects as possible. The small size of this garden called for a diminutive waterfeature in the form of a basalt water column. It's just about four feet high, but it makes a lovely sculptural statement and you can hear it (but not yet see it) when you enter through the gate and start moving along the path.

One of the challenges of working on small urban properties such as this one is that you're almost always faced with rectangular spaces. As I did here, I try to disrupt that feeling of being boxed in with angled or sweeping planting patterns and pathways that break the obvious geometry. It's not always easy to do, but when it works, you create wonderful spaces.

Expansive Tendencies

By Paolo Benedetti

In this new article series, watershaper Paolo Benedetti shares years of experience in providing clients with custom details and, as the series title suggests, offering solutions that can be applied in the field to carry them off. This time, it's all about isolation and crack-control joints and ways to avoid making aesthetic sacrifices in the installation of stone coping and deck veneers atop them.

Oftentimes, I end up wanting to use irregularly shaped or large, dimensional stones as a coping for my clients' pools and as a veneer in finishing their decks.

I know in doing so, of course, that the deck and its stone veneer must be isolated from the pool structure and the coping. I also know, of course, that random or dimensional stone generally doesn't conveniently follow the isolation joint around the back edge of the bond beam. Nor, for that matter, will the stone pieces used in the deck align with the control joints I've established in the concrete slab.

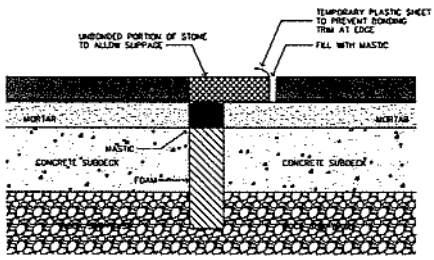
So how do I manage to make this all work without the ugly option of cutting the coping stones or the deck veneer to follow the joints? You'll find the answer in the approach described here:

- Prepare and place the concrete substrate as usual – that is, in such a way that the decking does not touch the edge of the pool structure at any point. Typically, this entails installation of a layer of closed-cell foam. (We use a custom, half-inch-thick product that comes in eight- to 12-inch widths instead of the readily available three-and-a-half-inch-wide material to make certain there's no chance *at all* of direct contact.)
- Next, float the subdeck with mortar to a level that accommodates the thickness of the stone veneer, extending the isolation joint up through the mortar to the surface.
- Seal the isolation joint with a polyurethane or polysulfide sealant, always using a good-quality material: It will never be seen again and must withstand the tests of time.
- Install a crack-control membrane on top of the bond beam and out onto the deck, spanning the top of the isolation joint. (We generally use the woven, cloth-reinforced Crack Control Membrane made by Laticrete of Bethany, Conn.)
- Position the random stone pattern on top of the crack-control membrane, using a quality thin-set mortar if you're setting a gauged stone or tile, or a "wet-set" method if you're using a natural stone that varies in thickness. The individual stones are placed into the wet mortar bed, and any excess that oozes out is trimmed away.

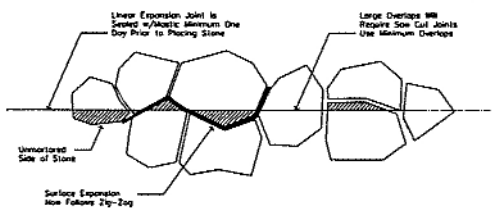
The trick with this detail is ensuring that the stone on *one* side of the joint is always "floating" – in other words, that it is *not* bonded to the substrate. This is accomplished by placing a layer of plastic tape, Visqueen or sheet plastic between the stone and the wet mortar on just one portion of the stone. In the example shown here, for instance, we chose the side of the stone with the smaller surface area to be the free-floating side.

Once installed, the stone is still in contact with the mortar bed and so is still fully supported. But the plastic functions as a "bond breaker," allowing the stone to slip with any movement. And in those spots where we need to cantilever a rather thick stone over, say, a gutter or slot detail, we'll epoxy the rear portion of the stone to the deck, leaving the front portion to float over the bond beam, with or without supporting mortar depending on the detail.

- Use this same bond-breaker approach where a stone in the deck pattern bridges any of the slab's crack-control joints. (Often, by the time we get around to applying the veneers, *additional* cracks will have appeared: We treat these the same way we do the control joints, basically because these are places where we *know* cracking will occur.)
- Perform any pressure-washing or sandblasting or sealing



OFFSET/STAGGERED EXP.
JOINT DETAIL 1/2 (N.T.S)



OFFSET/STAGGERED EXP.
JOINT DETAIL 2/2 (N.T.S)

Achieving this sort of look – that is, a beautiful stone surface without the awkward visual break that frequently marks the boundary between the coping and the surrounding deck – takes some finesse, but it's attainable by carefully using mortar and a bond-breaking material to let part of the stone 'float' on one side or other of the isolation joint.

of the installed stone before installing the grout. (In applying sealers, we take special care not to let the material flow down into the joints.)

■ Once the regular grouting is done, go back and fill the staggered joints of the "floating" stones with a quality mastic topped with decorative sand. The sand makes the mastic match the grout and also offers some ultraviolet protection to the mastic.

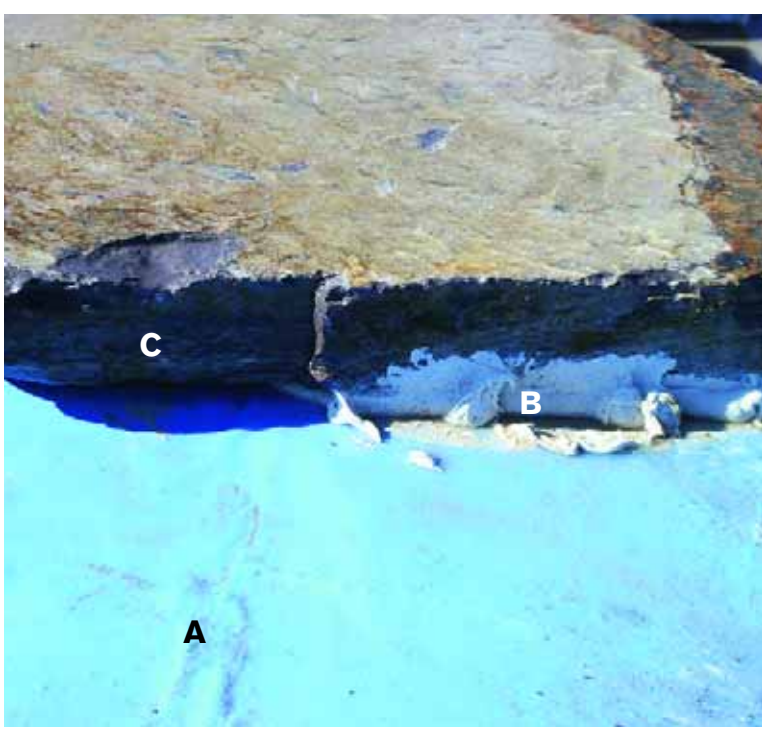
The coping and decking are done, and we have the satisfaction of knowing that we didn't sacrifice the aesthetics of irregularly shaped materials to our need to respect isolation and crack-control joints.

A Stable Base

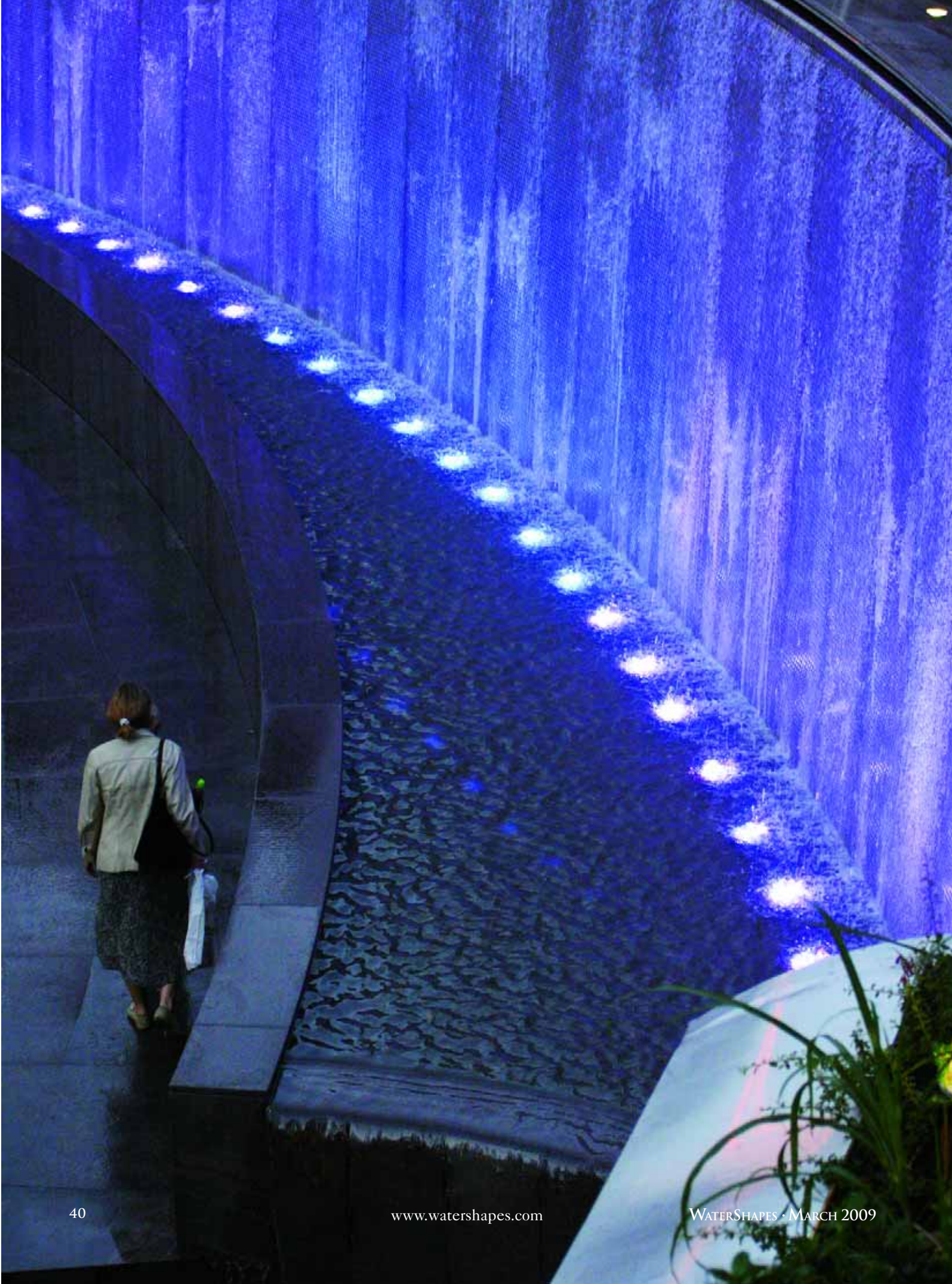
As is true with any flatwork project, success in the type of detail described in the accompanying text is completely dependent upon your having installed a stable concrete slab. None of the procedures described in the text will work if the stone material is applied over a thin concrete slab poured over an improperly prepared sub-base!

To ensure years of crack-free enjoyment, you need to install a steel-reinforced concrete slab of adequate thickness over a properly prepared sub-base – and make certain it's all done within parameters defined in the project's geotechnical report.

– P.B.



At this point in the process, the boundary between the bond beam and the subdeck (A) is covered (although it is still evident just to the left of the middle image). As you can see, only the portion of the stone to the left side of the joint has been mortared to the substrate (B), allowing the rest of the stone to reach over and float freely above the bond beam (C).



The Artful DANCE

By Simon Gardiner

Advances in fountain technology have defined a new class of animated watershapes that is not only more sophisticated but is also becoming more readily available. Here, Simon Gardiner of Crystal Fountains shares a pair of projects to illustrate how just two of these technologies – that is, submersible LED lighting and systems that make water dance – are helping his company and others bring fresh excitement to watershapes worldwide.

The international fountain business is an exciting, highly competitive and ever-challenging field, basically because the clients are as distinctive as the projects they commission, the settings they provide and the countries they represent. At Crystal Fountains (Toronto), we've staked our reputation in the global marketplace on understanding those distinctions and built our competitive edge on keeping up with technological developments that help us animate spaces with water.

Constant forward progress in technology is so critical because there's a persistent, ongoing demand for increasingly innovative and spectacular watershapes and displays. Clients everywhere are after the "wow" factor, and no matter where we work – Dubai, Europe or North America – a request for the sensational is the truest common denominator.

Leaping water jets and plumes and lighting effects have been in designers' repertoires for a long time, of course, but the display possibilities that inspired delight ten years ago are passé today. What's needed now, in our observation, is technology that sequences the height and timing and intensity of the water and lighting effects – the new keys to piquing curiosity and dazzling the eye.

The New Standard

Not long ago, you could set up a standing water feature with 12 nozzles that generated static plumes – and everyone was thrilled. Today, by contrast, these arrays are more likely to feature a dozen nozzles that create myriad water patterns. To that end, part of our ongoing design-development process is dedicated to finding new and different configurations, layouts, height variations and water volumes that will help us produce even broader ranges of visual and aural effects.

In addition, we've also chosen to focus our attention on programmable lighting systems and effects and have particularly adopted light-emitting diodes (LEDs) because of the access they give us to a virtually unlimited range of colors and instantaneous color changing.

The combination of these two technologies has enabled our firm (and many others) to achieve extremely specialized effects more readily than in times past. To illustrate these points, let's visit two projects – one in Poland, the other in Texas – that exemplify the sort of effects that can be achieved.

Golden Terraces

In 2004, we were brought in to work with EDAW, the giant international landscape architecture firm, to design and develop watershapes for *Zlote Tarasy* (that is, Golden Terraces), an upscale shopping complex in Warsaw.

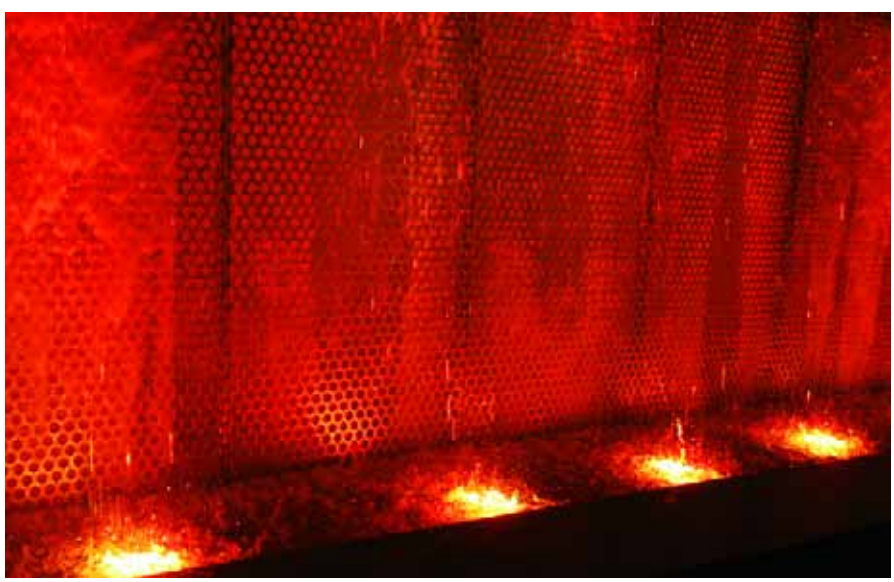
Completed in February 2007, *Zlote Tarasy* features cascades that cover two plazas – an indoor space with fountains and an outdoor area surrounded by restaurants. We at Crystal Fountains provided components and technical support on several of these watershapes, but by far the most impressive (and relevant in the context of this article) is the 65-foot-long, 13-foot-high, curving water wall that stands at the entrance to the new shopping center.

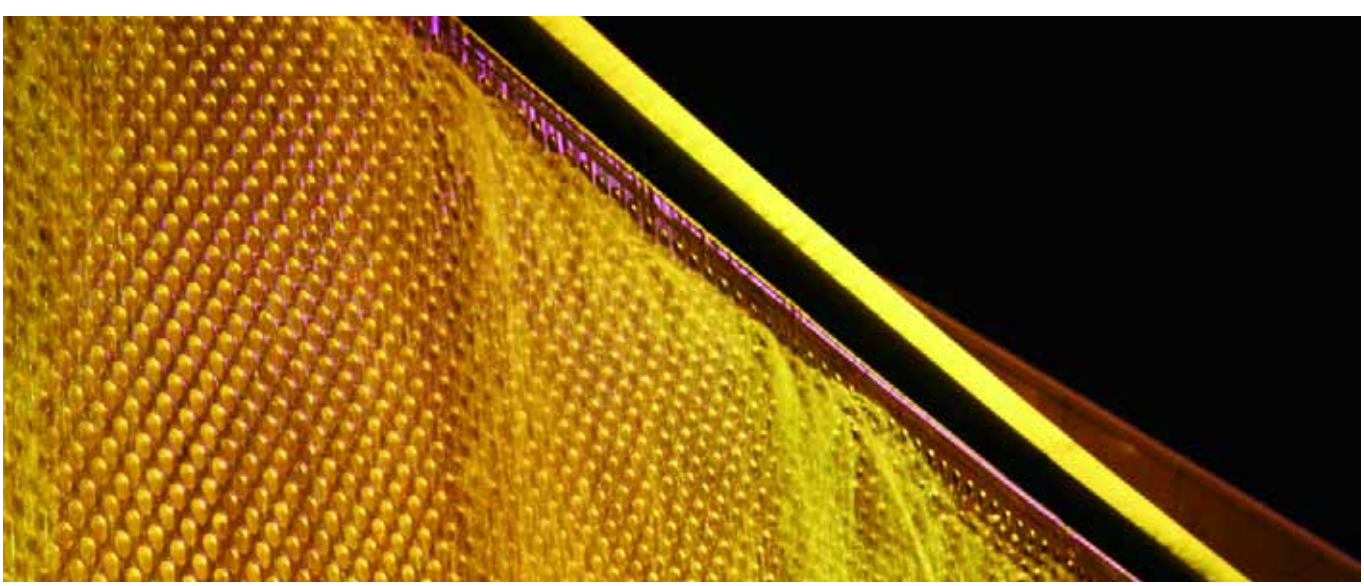
This watershape is a stand-alone feature designed as the grand entrance to the mall. It's located in a recessed plaza where it is surrounded by cafes and bars – but more important, it's also adjacent to the main square as well as the local transit depot, so passengers walk past the feature on their way to and from the station.

The design for the wall and the pool includes a small recessed trough at the foot of the wall in which we installed 27 submersible LED light fixtures. Positioning each one was critical to ensuring maximum color saturation, consistent color washing across the wall and proper intensity to the wall's full height. With some effort, we figured out that we had to place the LEDs about two inches below the water surface at 31-inch intervals and at points a bit more than 17-1/2 inches from the wall.

To maximize the effect of the LED light show, we had to deal with ambient light as a major issue as well: All other light sources in the area surrounding the water wall had to be controlled and made dimmable during night displays to allow for proper color rendition across the water wall with the greatest possible visual impact.

Once each hour, a 12-minute light show flashes across the water wall. It's a fast, exciting display featuring rapid changes in col-





ors that bounce across in one direction and then bounce back the other way in another color – or change in myriad other ways. Once that show ends, the display becomes more placid, using color-washing techniques to shift, for example, from blues to greens.

The significance of this project from our perspective is that this was the first time we'd ever used submersible LED lights. We quickly discovered that there was almost no limit to the variety we could achieve and that, indeed, the only real boundaries were budgetary: Developing these effects takes time and money, but beyond that, the sky truly is the limit.

In this case, we provided the clients with video footage of achievable lighting effects. Predictably, that demonstration proved a bit overwhelming, and things really only came together when we were on site and showed the clients basic displays that helped them define their likes and dislikes. It was a key collaborative step: The clients truly took ownership of the system we finally implemented.

The great advantage of programmability is that we can change displays anytime the clients so desire. We develop these new looks in our offices and can simply upload them to the control system via modem: All the client has to do is to review the show onscreen and approve it.

Lighting It Up

Back in 2002, Paul L'Heureux of Crystal Fountains wrote in WaterShapes (October 2002, page 38) that he thought light-emitting diodes were showing promise as a means of effectively illuminating fountains and waterfeatures.

He was only a little bit ahead of his time in thinking that way. At that point, LED technology was limited by its cost and the relatively low amount of light systems produced compared to halogen lights. Since then, however, a company we collaborate with – Color Kinetics of Burlington, Mass. – has figured out a way to generate intense, unfiltered colors and give users real control of color output.

We initially worked with Color Kinetics on development of Chicago's Crown Fountain (see WaterShapes, April 2005, page 50), an award-winning waterfeature consisting of video displays of faces projected onto two 50-foot towers – with water spouts appearing from the mouths and shooting down onto the deck below.

Spurred by the potential we saw through that project, we began working with Color Kinetics to develop submersible LED lighting fixtures – a product that emerged in September 2005 and has given us the ability to customize waterfeatures with a near-infinite variety of colors and lighting effects. How close to infinite? Well, the controller mixes primary colors into approximately 17 million possibilities.

Before this technology came along, we used colored lenses or the color wheels of fiberoptic systems, so changing colors meant scrolling through other available colors within whatever spectrum we'd defined. With LED technology you can, by contrast, switch from one color to another instantly with no transitional colors. That's tremendous diversity in design terms – the sort of advancement we needed to make our water choreography as beautiful and responsive as we needed it to be.

– S.G.

Animating a Square

We recently participated in a project in The Woodlands, Texas, at Waterway Square. Set in a one-acre public plaza and park, the unique watershapes take advantage of the site's terraced topography and are surrounded by the planned community's commercial district – office buildings, shops, restaurants and entertainment venues – as well as green space and some residences.

Waterway Square was commissioned by The Woodlands Development Co., The Woodlands Township and The Woodlands Town Center Owners Association. The space was designed by Watertown, Mass.-based Sasaki Associates, which also designed the 2008 Olympic Green in Beijing among other noteworthy projects.

The watershapes were designed by Aquatic Design Engineering (Oakland, Fla.) and have a number of key and sometimes unique features. We worked closely with them on fountain choreography and also provided them with various jet types and a total of 260 submersible LED lights.

From the surrounding buildings and from the air, the water wall and fountain look like a gigantic musical eighth note. The wall, which is 120 feet long and 10 feet high, is flanked by stairs and water cascades that step down over seven terraced levels and a stone wall to the lower pond. There are a total of 22 cascade jets in all – 20 in the lower pond and two at the top near the upper fountain.

The water jets, waterfalls and cascades create a variety of displays and effects ranging from the subtle flow of water over the stone wall to dancing columns of water – or the setting can erupt with "boomer" jets that shoot water up to 75 feet in the air. The upper area of the park also has multiple sequenced jets choreographed on a rotating basis to eight songs currently in its repertoire. There are 80 controlled jets in the upper area, arranged in three concentric rings.

The interactive deck-level fountain features a mosaic called "Treasures from Grandma's Purse" and has a total of 34 jets (including six laminar jets) enhanced with colored lights. These jets and the colored lights are choreographed to music heard via 20 speakers and a 4,250-watt sound system driven by five amplifiers.

The entire system is run from a 3,251-square-foot equipment room – located on site, but barely visible. More than two miles of pipe move water from this space to various spots in the watershape complex.

Making Water Dance

In choreographing water and making it "dance" in time to music, we at Crystal Fountains have the advantage of working with our own "Choreoswitch" technology – a programmable water-flow controller we based on switching systems we saw being used in the wastewater-management industry. The pipes they were working with were two or three feet in diameter: By scaling them down to our purposes, we found them to be a wonderful way to produce a whole palette of quick, animated effects.

Early on, these switching systems were custom-made for individual clients. As the concept became popular, we turned them into off-the-shelf technology using a solenoid valve designed specifically to produce dancing-water effects. Since then, we've combined these valving systems with computers using programs that originated in theatrical applications.

Interestingly, the same technology we use to drive our water systems is also the technology used to control advanced theatrical lighting systems. Not only does this simplify the process of developing shows that include both water *and* light, but it has also made it possible for us to find talented lighting operators who want to expand their capabilities. And believe me, at this point it's easier to find trainable lighting-control operators than it is to find experienced fountain-control operators!

– S.G.

Driving Home

More than two years in the making, this supersized backyard watershape pushed designer/builder Kathy Marosz to the limits of her design skills, construction expertise and mental and physical stamina. Here, in her third and final article on this extraordinary project, she reflects on what it took to make it all happen and guides us through a pictorial celebration of the project's numerous (and generally exquisite) finishing details.

By Kathy Marosz

It's not often that a watershaper tackles a job that takes more than two years of complete, full-time effort, but that's been the case for the project pictured here. For nearly two and a half years, in fact, I devoted virtually all of my working life to this single backyard watershape environment, and as I've mentioned in previous articles, there were times when I wondered if I was crazy to get involved with a project of this scope.

Indeed, to describe it simply as a "backyard watershape environment" is to fall *miles* short of conveying the complexity of the systems covered in two previous *WaterShapes* articles ("When Dreams Grow," April 2008, page 34; and "Layering the Experience," July 2008, page 50): It was a monster project, and there were times I thought the beast had me at a distinct disadvantage.

You know all about that, of course, if you've followed this sequence of articles, so I won't belabor the point. Here, we'll wrap things up by letting the photographs tell most of the story – although I must say the images don't quite capture the full extent of a project that, to me, represents almost 30 months' worth of blood, sweat and tears.

Back to the Source

Let's reset the scene, *very* briefly: The clients had a large backyard and wanted a place for their three children to play that would also serve as a venue for parties accommodating more than 100 guests at a time in luxurious splendor.

In meeting that need, our work included not only installation of an unusually large spa and freeform pool, but also a flotilla of every deluxe feature the clients or I could imagine, including a vanishing edge; a long swim-up bar; a huge rock grotto; a beach entry/ play area with programmable foam and deck-level pop-up jets; deep-end beach entries; fiberoptic and LED lighting; fire effects; programmable fan jets and laminar/leaper jets; waterfalls; artificial rockwork; natural stone decking; multi-colored exposed-aggregate finishes; extensive, custom glass and ceramic tile; ledger stonework; and an equipment pad with 20 variable-speed pumps along with multiple ozone generators, gas heaters, heat pumps, state-of-the-art control systems and more.

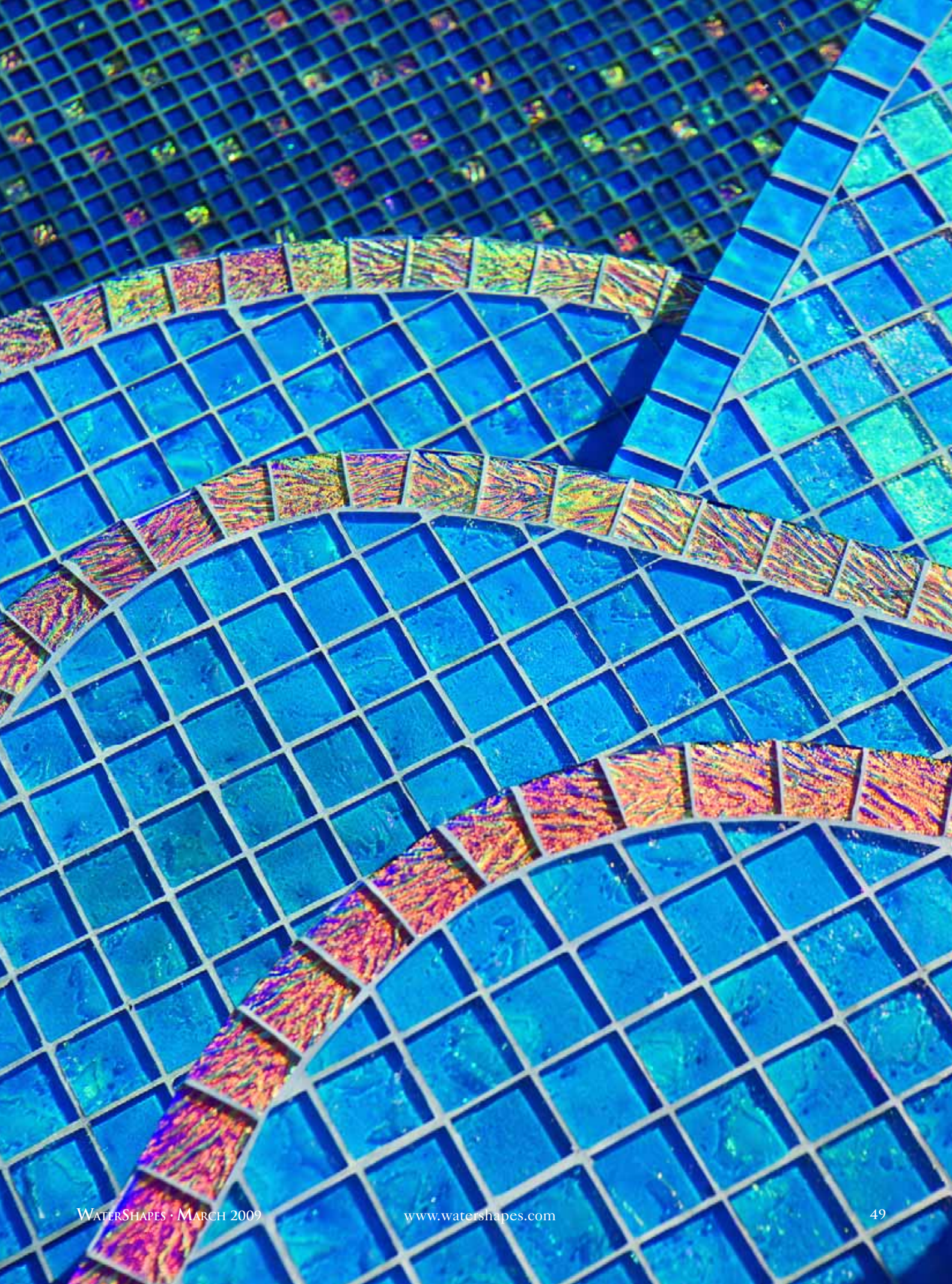
It bears mentioning that the project shown here isn't quite complete: Once we finished the watershape elements, we were to move on to develop a number of landscape and hardscape features and outbuildings. Unfortunately, the owner suspended work before all of these features were completed. We're hoping to be back on site to complete our work sometime in the year to come.

The watershapes, however, are fully up and running: Just as the clients hoped, the water now serves as a venue for both family fun and gala social events; just as *I* hoped, all the details we visualized and debated have come to fruition. Although there might be a thing or three I'd alter if I could, for the most part the details are even more beautiful than I had imagined.

Among the highlights are the fusion of custom shapes of jewel-like glass tile and hand-painted ceramic tile murals provided, respectively, by Lightstreams Glass Tile (Mountain View, Calif.) and Craig Bragdy Design (Denbigh, Wales). Normally, the use of either of their products alone would be a project's defining design element, but in this case Lightstreams' David Knox and Craig Bragdy's Nick Powell collaborated to interweave both materials – with truly spectacular results.

Another highlight is the multi-colored exposed-aggregate finish we designed in close collaboration with supplier Pebble

Photos by Macduff Everton, Santa Barbara, Calif.



Technology (Scottsdale, Ariz.) and plaster subcontractor Gardner Pool Plastering (El Cajon, Calif.). Not only does this material embrace all of the tile and stone details, but it does so in five different colors of Pebble Tec and Pebble Sheen – one of them a custom blend made just for this project.

Colorized Fun

The finish colors included the Tahoe Blue Pebble Tec we used inside the grotto to complement the rustic feel of the space as well as the Desert Gold Pebble Sheen placed all the way to the pool floor on the walls where the faux rockwork seems to penetrate the bond beam – thus making the rocks appear to be the tips of massive submerged boulders.

Accommodating the client's desire that the swim-up bar and the pool's shallow areas should look like white sand and that the deep end should be a deep blue color, we developed the custom color mentioned above to ease what would have been an abrupt visual distraction at the break from shallow to deep water. This transitional Pebble Sheen color was also used on most of the walls in the swim-up bar and shallow-end areas to provide a smooth transition from the aqua and turquoise colors of the waterline's glass tile and to conjure an undulating, sand-dune effect where the walls meet the much lighter floor.

Installing these different colors proved a real challenge: Gardner's crews would place a color in one area and then I would step in and score the finish to create the exact contours and patterns I wanted. They'd remove the material beyond my score marks and then add the next color, creating crisp lines where the colors changed. (Given the fact that these finishes had to stand up visually alongside the vivid tile details, I also asked Gardner to add crushed seashells to the mix to lend a subtle sparkle throughout.)

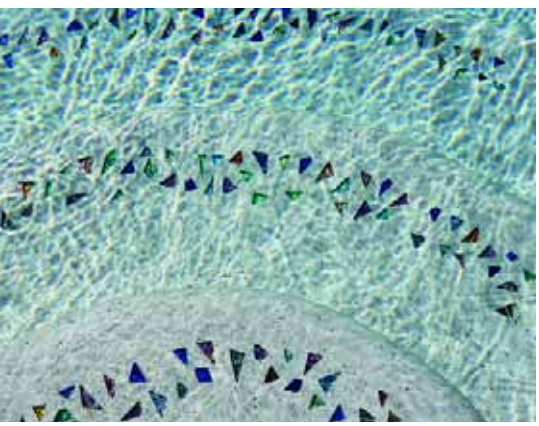
This sort of attention to detail was emblematic of everything that happened with this project. From the excavation in the rocky soil and the complex structural details of the shell to the complex plumbing runs, extensive artificial rockwork and multiple programmable waterfeatures, everything was as custom as custom could be, and it all required a level of teamwork and creative problem-solving at levels I've never witnessed before.

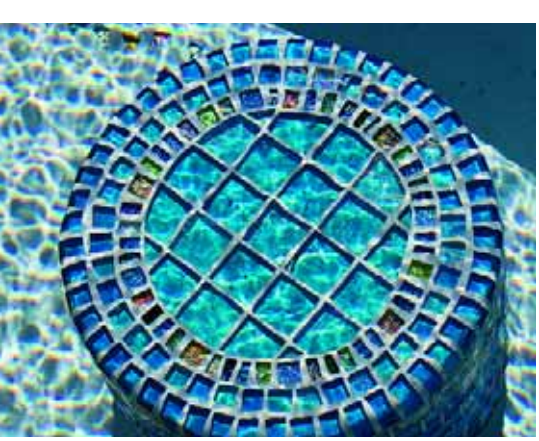
To say that everything went smoothly would be an exaggeration. There were tense moments within the project team and more than a few uncomfortable moments with the clients. Through it all, however, everyone involved – including equipment suppliers, consultants, contractors and subcontractors – stepped up, stayed focused and did what they had to do to see the process through to the finish.

As I look back on this project and its seemingly infinite list of trials and tribulations, I'm extremely proud of what we all accomplished together. The fact that the clients are happy with it is certainly the most rewarding aspect of the work, but I'm also grateful that I had the opportunity to stretch my capabilities to the absolute limit.

Right about now, of course, I could also use about six weeks in Hawaii.

The project is filled with wonderful, localized details in glass tile, including these unusual step markers (top), the risers on the stairs leading to the spa (middle), the rolled edge inside the spa (left) and the stools in the swim-up bar (bottom).





There are just as many interesting features in ceramic tile, from murals of flying fish to the elaborate beach entry in the shallow play area.

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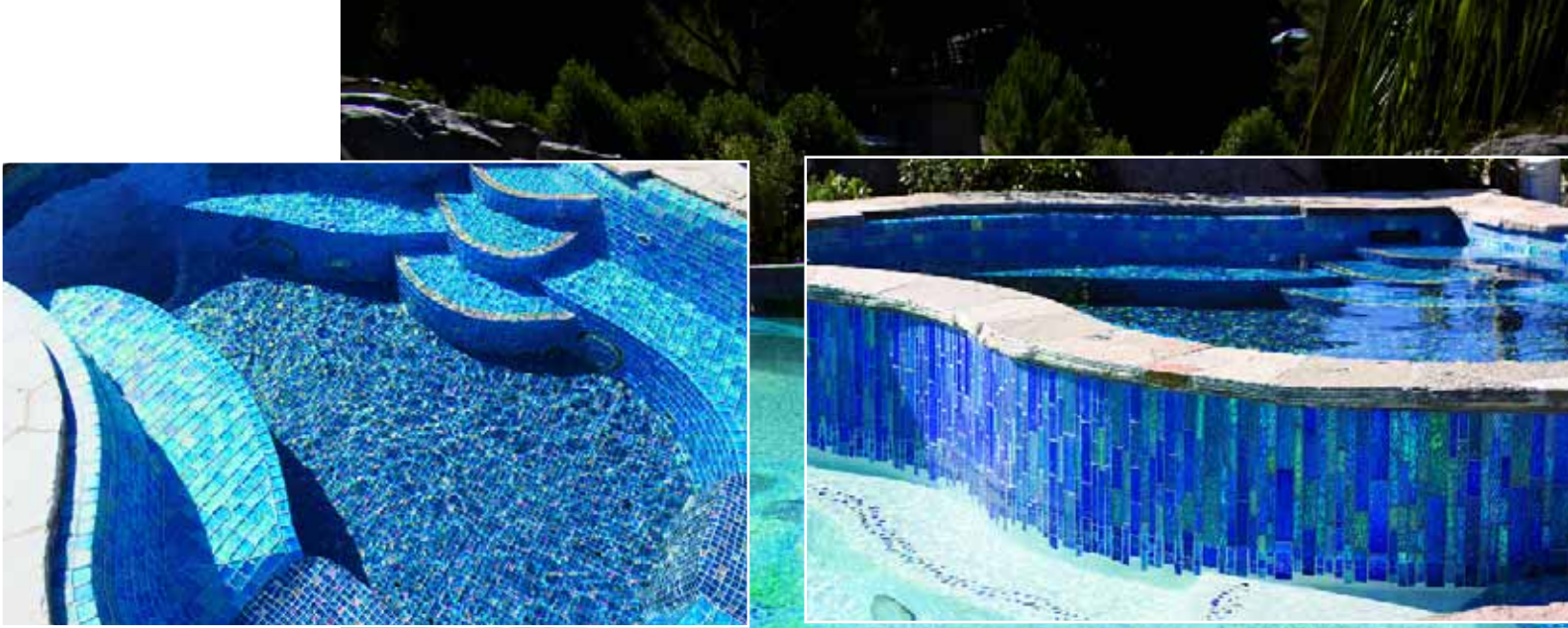
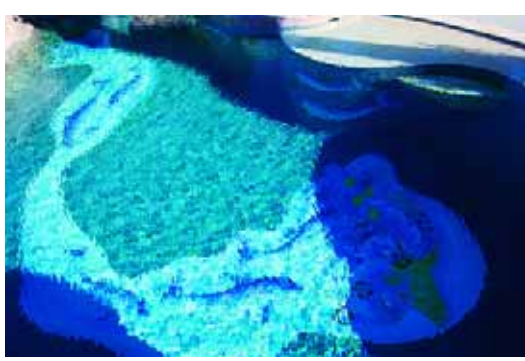


The spa is a celebration in stone and (mostly) glass tile, with special seating areas marked by different-size tiles, wonderfully luminous edge banding and, on the dam wall, a bamboo-like jungle of vertical glass ribbons.

Isolated by a removable acrylic panel, the swim-up bar is its own environment and boasts amazing details in stone and in both glass and ceramic tile.

Done up in meticulously finished artificial rock, the large grotto invites swimmers inside with a brilliant fire effect and ample seating – and there's also a twisting passageway leading out the back of the pool complex.



We used various colors of exposed-aggregate finish to define different areas of the pool complex and offer 'reflections' of the natural and artificial stonework that surrounds the pool. It was painstaking work, but the overall visual effects add tremendous interest to the pool's interior contours and features.

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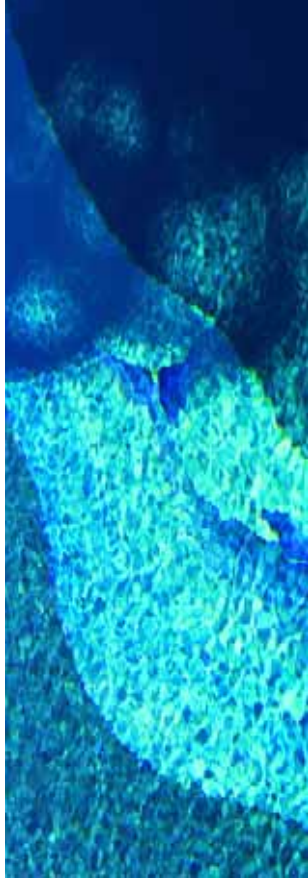
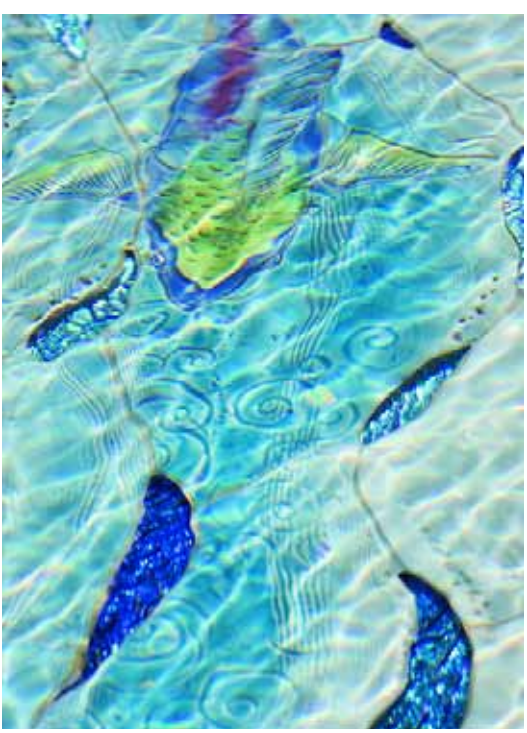
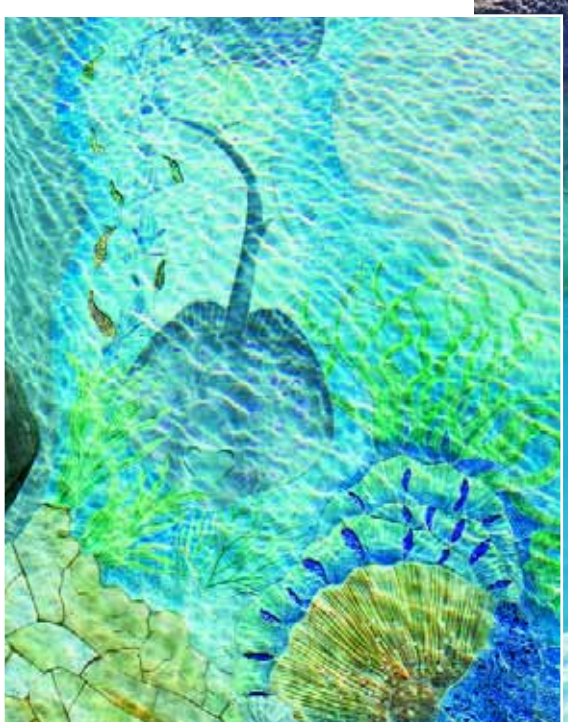
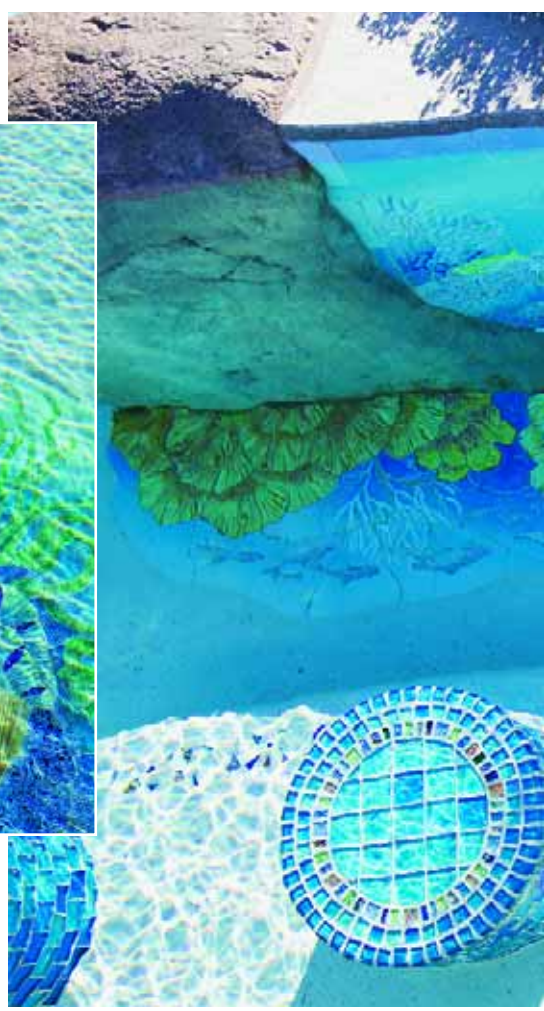
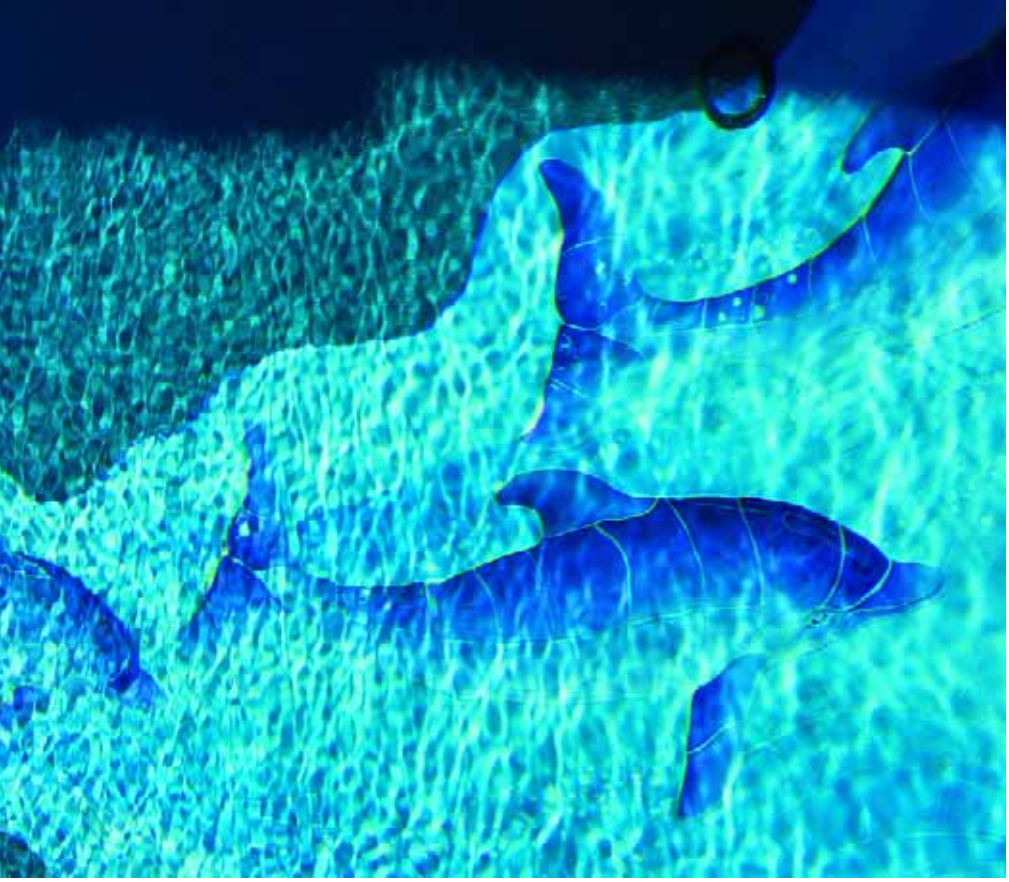








Of all the spectacular details in this project, some of the most visually arresting occur where the realms of glass and ceramic tile overlap. In some spots, the glass adds a measure of sparkling depth to images of rays and schooling fish; in others, there's a synergy between the materials that delights the eye and spurs the imagination.



The larger-scale mosaics in textured ceramic tile work with the plaster colorations to create the impression that the watershape drops from the shallows of a coral reef down to greater depths where large marine mammals might thrive.

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In considering all of the additional details seen here – the array of interactive fountain features, the slotted-limestone grating at the edge of the beach entry and the vanishing edge and its water wall (not to mention the variety of plants that will, in time, surround and soften the rockwork's hard edges) – I like to think the watershape adds up to something that's much more than the sum of its details. It's not just a pool/spa complex: It's a family's paradise and an entertainer's dream.

Key Players

As suggested in the accompanying text, a huge number of individuals and companies made significant contributions to this spectacular project. In the spirit of giving credit where it's more than due, here's a list of as many of them as I can recall:

A tip of the hat to Skip Phillips of Questar Pools (Escondido, Calif.) for developing the original design; to the clients, who let me run with the original concept and allowed it to grow into something spectacular; to Steve Sebo of All Water Tek (San Diego, Calif.) for collaborating with me on the complex hydraulic design and to his crews (especially foreman Paul Reed) for patiently handling the installation; to David Knox of Lightstreams Glass Tile (Mountain View, Calif.) and Nick Powell of Craig Bragdy Design (Denbigh, Wales) for their amazing collaboration on the tile work; to David Peterson of Watershape Consulting (Carlsbad, Calif.) for his work on designing the equipment set and surge tank; and to the crew of Gardner Pool Plastering (El Cajon, Calif.) for their masterful work in installing the finish.

Gratitude as well goes to equipment suppliers, including Pentair Water Pool & Spa (Sanford, N.C.) for pumps, lighting and control equipment; AquaCal (Port Charlotte, Fla.) for heat pumps; Clearwater Tech (San Luis Obispo, Calif.) for ozone generators; Chemtrol (Santa Barbara, Calif.) for chemical-automation systems; Signet Brand (El Monte, Calif.) for flow meters; Crystal Fountains (Toronto) for various fountain effects; Pebble Technology (Scottsdale, Ariz.) for exposed-aggregate finishes; Harris Brothers (Monterey, Calif.) for the limestone grating in the play area; Automated Fire & Water Effects (Las Vegas, Nev.) for fire features; Custom Cascade (Temecula, Calif.) for waterfall fixtures; AquaStar (San Diego, Calif.) for various fittings; Nexxus Lighting (Orlando, Fla.) for fiberoptic lighting; and Lubell Labs (Columbus, Ohio) for underwater speakers.

Congratulations (and thanks) to one and all for a job superbly done.

– K.M.

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POND-SUPPLY CATALOG

AQUASCAPE has published its 2009 catalog of professional-grade products for pond contractors. The 76-page, full-color booklet reviews construction steps and covers system components – pumps, skimmers, filters and more – for ponds and pond-free waterfalls. There's also information on the company's rainwater-harvesting system, decorative items and various fittings and fixtures. **Aquascape**, St. Charles, IL.

PLAY FEATURE

MOST DEPENDABLE FOUNTAINS offers Play Tower 2, a water-spraying feature that runs for up to two minutes with the push of a button. Designed to cool people off on warm days and entice them to stay and play longer, the device comes in 17 colors, mounts securely to a concrete pad with anchor bolts and has an access panel that makes it easy to reach the water supply. **Most Dependable Fountains**, Arlington, TN.

FILLER TANK

FILTRIFIC manufactures the T390F filter tank for use with large or high-flow waterfeatures – everything from ponds to fountains. The 390-gallon tank offers great design flexibility with either six- or ten-inch intake ports and an ability to handle up to 42,000 gallons per hour (700 per minute) through two large filter baskets. It also has front and back discharge ports for up to four pumps. **Filtrific**, Woodinville, WA.

DECK LIGHTING

TIMBERTECH has introduced the DeckLites low-voltage lighting system. Featuring post-cap lights, baluster-mounted accent lights, post-mounted accent lights and stair-riser lights, the fixtures offer customizable illumination solutions in any application and are compatible with the company's RadianceRail and Ornamental Rail systems as well as its FenceScape composite fencing product. **TimberTech**, Wilmington, OH.

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Self-Cleaning Chlorinator

AMERICAN SPS has introduced the Nexa Pure system, a chlorine generator that eliminates manual cell cleanings, pH rise and the need to reverse polarities. Each day, a volume of water in the cell is dosed with a measured amount of acid, creating enough of an acid concentration to dissolve any mineral deposits that might accumulate in the course of a day's operation. **American SPS**, Altamonte Springs, FL.

Pool-Product Catalog

PENTAIR WATER POOL & SPA has released its 2009 catalog. The 690-page book contains product descriptions and ordering information for the company's residential and commercial lines of pumps, filters, heaters, cleaners, controls, lighting and more (including the Sta-Rite product line) – both whole goods and replacement parts. It's also available in a compact-disk format. **Pentair Water Pool & Spa**, Sanford, NC.

Deck-Draining System

DECK-O-SEAL offers the Deck-O-Drain system to provide effective drainage for concrete pool decks. Designed to collect and quickly carry away water, the system's components are made of long-lasting, wear-resistant, non-corrosive PVC and lend watertight protection to both the deck and its substrate. Also, the units' non-directional design eliminates the need for right or left fittings. **Deck-O-Seal**, Hampshire, IL.

Pool/Spa Handrails

FABCOTE has introduced a line of powder-coated, stainless steel handrails for swimming pools and spas. Made using state-of-the-art technology that produces exceptionally durable, corrosion-resistant finishes, the rails' surfaces are evenly coated using an electrostatic process that drives the material into and around all contours. The rails are available in either white or a designer gray color. **Fabcote**, York, PA.

Exterior Lighting

U. S. ARCHITECTURAL LIGHTING offers the Trilux series of wall-mounted fixtures. Featuring Luxeon K2 high-output LEDs, the fixtures come in a range of styles, sizes and finishes designed for exterior applications with 9-, 18-, 27-, 36- and 50-watt lamps in neutral white, warm white, red or blue. The water-tight housings come with flush, recessed or angled lenses. **U.S. Architectural Lighting**, Palmdale, CA.

Barbecue Islands

NAPOLEON FIREPLACES & GRILLS offers barbecue islands that provide an ideal atmosphere for outdoor cooking and dining. The modular systems allows for complete customization to suit any need or fit any space and includes grills as well as a range of amenities, from full cabinets to paper towel racks. All modules are 35 inches tall and 24 inches deep with four leveling feet. **Napoleon Fireplaces & Grills**, Barrie, Ontario, Canada.

Waterpark Thrill Ride

WHITEWATER WEST INDUSTRIES has introduced the AquaLoop slide. The ride starts on a high tower in an AquaRocket entry – a trap-door-type device that entertains with lights and music before dropping users into the ride's initial 40-foot vertical free-fall. The energy of this plunge carries riders along the looping slide with maximum speed and exhilaration. **Whitewater West Industries**, Richmond, British Columbia, Canada.

Concrete-Products Catalog

QUAKER PLASTIC CORP. has released a catalog on its products for the concrete-construction market. From control joints and paver drains to high-capacity deck drains, coping forms and discharge hoses, the booklet includes photos, part numbers, drawings and specifications and covers a wide array of products for those who work with concrete to create beautiful backyards. **Quaker Plastic Corp.**, Mountville, PA.

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– Rod Rotelo, Rotelo Consultants, Slidell, La.

'The simplicity of how to draw blew me away! I understand the difference between the one- and two-point perspectives now. Thanks!'

– Tim Long, Pools of Living Water, Garland, Texas

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October 7, 2009
La Jolla, California

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Fees: $3,950 includes four nights' accommodations, meals and course materials. (If a spouse or guest joins you, an additional fee of $1,150 will be charged to cover accommodations and meals).

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Fountain System

EASYPRO POND PRODUCTS has introduced the Aqua Fountain. Designed for aesthetics, reliability, energy efficiency, affordability and safe, continuous operation, the system has the look of a large floating fountain and comes with interchangeable spray nozzles (rocket and umbrella) that can be switched without tools and without the fountain ever having to be removed from the water. **EasyPro Pond Products**, Grant, MI.

Combined Cleaner/Chlorinator

WATERTECH has introduced COBIA, a combined automatic pool cleaning/chlorine generating machine that chlorinates and cleans a pool at the same time. Designed for residential applications, the compact chlorinating device keeps converting salt to chlorine even after the cleaner has run through its cycle – and does so until a predetermined chlorine level is reached. **WaterTech**, East Brunswick, NJ.

Pool/Spa Pumps

AQUAPRO SYSTEMS has introduced the Eco Apex Series of pool and spa pumps. Designed by service professionals, the products feature a tool-free configuration for fast, easy maintenance – but they are also designed for high efficiency, top performance and maximum savings. The corrosion-resistant, self-priming units are available in a range from 3/4 to 2-1/2 horsepower. **AquaPRO Systems**, Harrison, OH.

Big Butterfly Valves

ASAHI/AMERICA has expanded its line of large-scale butterfly valves: Types 56D and 75D come in diameters from 16 to 24 inches; feature rugged, molded-plastic bodies with durable discs; and have been engineered to incorporate molded body stops to prevent over-tightening of the mating flanges during installation. A spherical disc design aids flow characteristics and lowers operating torque. **Asahi/America,** Malden, MA.

Pool-Wall Fastening System

CARAVELLE POOLS has introduced the Speed-Lock peg-and-wedge installation system for its polymer pool walls. Made of a corrosion-resistant polycarbonate material colored a bright orange to enhance visibility, this unique fastening system saves time in installation of pools of any shape by speeding placement of pegs through the appropriate holes for lock-tight fastening. **Caravelle Pools**, Schuylkill Haven, PA.

Commercial Pool Lights

PENTAIR WATER COMMERCIAL POOL & AQUATICS has introduced the IntelliBrite commercial lighting system to provide pure, white illumination for aquatic settings. Designed to enhance the beauty of commercial aquatic facilities, the new LED lights use innovative lens geometry and an exclusive reflector design to create wide, uniform light distribution. **Pentair Water Commercial Pool & Aquatics**, Sanford, NC.

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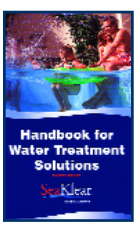
Water-Storage Matrix

ATLANTIC WATER GARDENS has introduced EcoBlox for fountains and other pond-free waterfeatures. Designed for easy installation and maintenance, the heavy-duty unit offers a storage capacity of 31-1/2 gallons and features an eight-panel construction system for exceptional structural strength. In addition, its holes are just 1/2 by 3/4 inch, so it can be used with smaller gravel. **Atlantic Water Gardens**, Mantua, OH.

Concrete Primer

SMITH & CO. offers Damp Concrete Primer, a 100-percent-solids product that effectively glues a coating to raw concrete. When mixed with two parts of water, the concentrated polyurea product self-emulsifies; when applied to a concrete surface, it keeps water from interfering with the adhesion of a finish coating. A quart covers 400 square feet with no solvents, no odors and no V.O.C concerns. **Smith & Co.**, Richmond, CA.

Water-Treatment Catalog



SEAKLEAR has released the second edition of its *Handbook for Water Treatment Solutions*. The 32-page, full-color catalog covers the company's line of products, including clarifiers, enzymes, chlorine-free shocks, algaecides and stain removers. It also offers overviews of treatment issues, defines the causes of water problems from cloudiness to waterborne illnesses and includes troubleshooting tips. **SeaKlear**, Bothell, WA.

Barrel Sauna

ALMOST HEAVEN SAUNAS offers the Canopy Barrel Sauna, a freestanding unit for indoor or outdoor applications. Milled from solid, 1-1/2-inch thick Western Red Cedar and perched on a rot-resistant polyethylene cradle, the easy-to-assemble unit seats four, has a tempered, tinted-glass door and includes benches inside as well as outside – a great place to cool off between sessions. **Almost Heaven Saunas**, Macatawa, MI.

Permeable Pavers

WHITACRE GREER offers permeable clay pavers that feature 11-percent void space to reduce water runoff, increase on-site infiltration, eliminate surface-water ponding and trap pollutants. ADA-compliant and available in a full range of standard, multi-shade and custom colors, the pavers are 3 inches thick and are engineered to stand up to both pedestrian and vehicular traffic. **Whitacre Greer**, Alliance, OH.

Tiki Features

UNDER THE SUN DISTRIBUTORS offers a range of Tiki-style bars, stools and tables. The bars are made with 100-percent natural bamboo, and all models are available with roofs in a variety of styles. The stools come in two styles, one with swivel tops over tiki heads, the other in 100-percent bamboo, while the tables feature tiki-head bases to complete a Hawaiian theme. **Under the Sun Distributors**, Okeechobee, FL

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Tisherman on working in difficult soils; **White** on edge treatments; **Lacher** on expansive soils.

❒ June 1999 (Vol. 1, No. 3)
Phillips on water and decks; Parmelee & Schick on soils and geology; **Anderson** on water sounds.

❒ August 1999 (Vol. 1, No. 4)
Anderson on stream design; **Adams** on community waterparks; **Gutai** on spa hydraulics.

❒ October 1999 (Vol. 1, No. 5)
Holden on aquatic-design history; **Mitovich** on dry-deck fountains; **Tisherman** on site geometry.

❒ December 1999 (Vol. 1, No. 6)
Finley on Japanese gardens; a **roundtable** on pools and landscape design; **West** on color rendering.

❒ February 2000 (Vol. 2, No. 2)
Hersman on lighting design; **Macaire** on faux-rock installations; **Andrews** on glass mosaics.

❒ March 2000 (Vol. 2, No. 3)
L'Heureux on project management; **Long** on steel cages; **Forni** on installing and maintaining lakes.

❒ April/May 2000 (Vol. 2, No. 4)
Schwartz on garden access; **Anderson** on streambeds; **Nantz** on watershapes and architecture.

❒ September 2000 (Vol. 2, No. 7)
Davitt on designing for small spaces; **Altvater** on the importance of aeration; **Hetzner** on sheet falls.

❒ November/December 2000 (Vol. 2, No. 9)
Arahuete on John Lautner; **L'Heureux** on stretching laminar flows; **Benedetti** on satellite surveying.

❒ January/February 2001 (Vol. 3, No. 1)
Holden on a retro-look design (I); Fleming on coccia

❒ October 2001 (Vol. 3, No. 8)
Tisherman on hilltop views; **Hagen** on natural stream work; **Schwartz** on classic stonework (III).

❒ November/December 2001 (Vol. 3, No. 9)
Straub on Kansas City's fountains; **McCloskey** on the Getty Center; **Tisherman** on Fallingwater.

❒ January 2002 (Vol. 4, No. 1)
Phillips on Hearst Castle's watershapes; **Bower** on the Raleigh Hotel pool; **Roth** on Katsura Rikyu.

❒ February 2002 (Vol. 4, No. 2)
Marosz on project integration; **Moneta** on spa-edge details; **Affleck** on scupture and water.

❒ May 2002 (Vol. 4, No. 5)
Anderson on pond essentials; **Pasotti** on interactive waterplay; **Gibbons** on 'stellar' fiberoptics.

❒ June 2002 (Vol. 4, No. 6)
Altorio on civic fountains; **Gutai** on skimmers; **Beard** on working with landscape architects.

❒ September 2002 (Vol. 4, No. 8)
Rosenberg & Herman on site-sensitive design; **Dirsmith** on long-term design; **Gutai** on filters.

❒ October 2002 (Vol. 4, No. 9)
Copley & Wolff on modernizing fountains; **Bethune** on imitating nature; **Tisherman** on edgy colors.

❒ November/December 2002 (Vol. 4, No. 10)
Holden on Villa d'Este; **Hobbs** on Maya Lin's watershapes; **Phillips** on water in transit.

❒ January 2003 (Vol. 5, No. 1)
Fleming on high-end ambitions; Harris on decorative interior finishes; **Gutai** on surge tanks.

❒ February 2003 (Vol. 5, No. 2)
The Beards on collaboration; Yavis on custom vinyl-liner pools; Mitovich on Monarch's campus.

❒ November 2003 (Vol. 5, No. 11)
Holden on carved stone; **Shaw** on roles of consultants; **Forni** on period-sensitive renovation.

❒ December 2003 (Vol. 5, No. 12)
Five-year **article and topic indexes**; five-year index for all **columns**, 1999-2003.

❒ January 2004 (Vol. 6, No. 1)
Ruddy on enclosures; **Lacher** on steel and concrete; **Forni** on water quality for natural watershapes.

❒ February 2004 (Vol. 6, No. 2)
Varick on nature and architecture; **Benedetti** on protecting stone; **Kaiser** on grand-scale watershapes.

❒ March 2004 (Vol. 6, No. 3)
Morris on kinetic sculpture; **Cattano** on collaboration; **Hebdon** on water and settings for healing.

❒ May 2004 (Vol. 6, No. 5)
Rowley on main-drain safety; **Ewen** on purposeful restoration; **Dallons** on high-wire watershaping.

❒ June 2004 (Vol. 6, No. 6)
Dallons on a hilltop treasure; **Mitovich** on the D-Day Memorial; **Slawson** on Japanese inspiration.

❒ July 2004 (Vol. 6, No. 7)
Benedetti on fortifying concrete; **Shaw** on fountain 'standards'; **Holden** on Italy's watershapes.

❒ August 2004 (Vol. 6, No. 8)
Bravo on Olympic-scale restoration; **Martin & Tester** on water and music; **Jauregui** on clients and styles.

❒ September 2004 (Vol. 6, No. 9)
Abaldo on a grand-scale vision; **Gutai** on valves; **Lennox Moyer** on principles of lighting water.

❒ October 2004 (Vol. 6, No. 10)
diGiacomo & Holden on waterscaping style; Allen on

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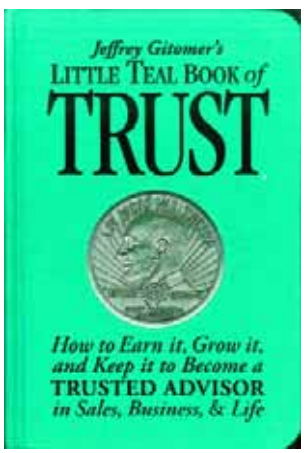
WATERSHAPES

By Mike Farley

Trust Matters



I've spent some time in the past couple months looking for a good book about *trust*.

I ran into some clunkers along the way, with many of them impressing me with how boring and preachy they could be. But I never had that kind of reaction to *Little Teal Book of Trust* by Jeffrey Gitomer (Pearson Education, 2008): I'm a big fan of his (you may recall that I wrote about his *Little Red Book of Selling* in March 2008) and have always liked the way he manages to take broad subjects and break them down into perfectly sensible discussions filled with food for thought.

I was inspired to leaf through a number of these books because I've long found trust to be an interesting topic – and a distinctly elusive quantity in the world of watershaping.

As designers and builders, for instance, we want to trust our clients and be trusted by them. It's often difficult if not impossible for them, however, to break through their natural inclination to distrust anyone who's trying to sell them something – or, from our perspective, to get past doubts about a pospect's ability to pay or willingness to move forward. It can be even tougher to overcome fears that we're being used and that our fine designs will ultimately be turned over to scurvy low-bidders for construction.

Gitomer offers an overview of the concept of trust and then specifically gets into how it applies to our working and personal lives in both commonsensical and profound ways. He correctly points out, for example, that trust begins deep within ourselves and that the first questions we must ask are: Do we trust ourselves? Do we keep our promises to ourselves, or do we set those things aside in favor of other concerns? In this way, he guides us to a logical touchstone: To be trusted, we must be worthy of trust.

That's simple and true enough, but then he continues by pointing out that, in many situations, the most trustworthy among us are often frustrated when others don't immediately assign us a desired level of credibility. In other words, we assume that because *we* know we can be trusted, that *others* must know it quickly and instinctively.

This is where Gitomer's approach really started to grab me: Regardless of how trustworthy two parties may be, trust is seldom immediately forthcoming; instead, the relationship must be built over time. So to be successful in gaining the trust of others, he writes, we must be willing to invest in the process of earning it – and be patient as well.

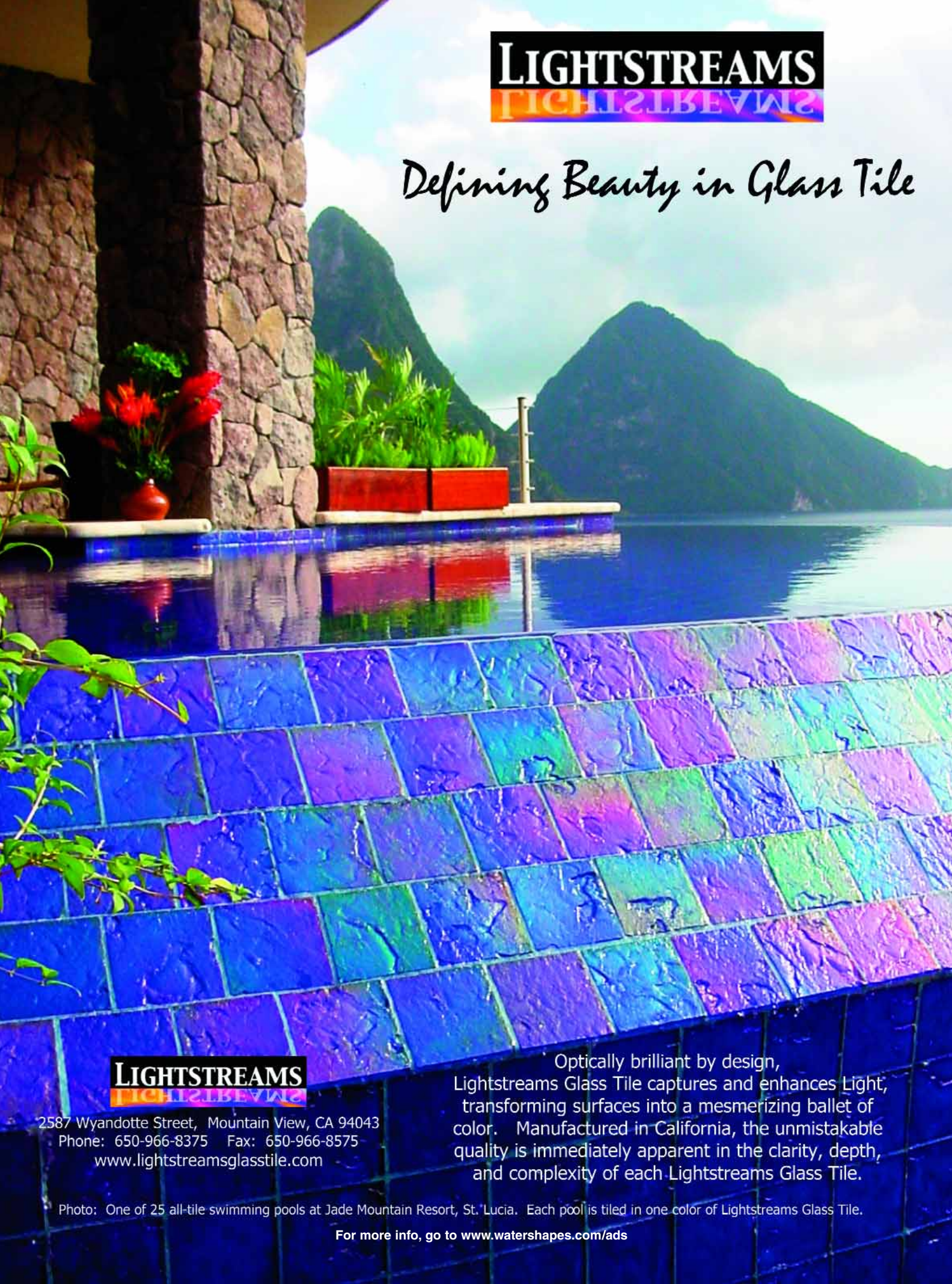
He also notes, accurately I believe, that trust can be fragile, especially in the early going. At that stage, after all, the simplest things can make it or break it: Do you show up on time? Do you follow through on commitments? Are you consistent in what you say and subsequently do?

This wonderful, brisk, 200-page discussion is rich with advice and examples of how trust works in both our work and home lives. Gitomer revels in the advantages that flow from trust and explores the ways it expedites, smoothes and eases the accomplishment of complicated tasks – and describes how things fall apart when trust is broken. He offers a brief quiz in which the reader can assess his or her own level of trustworthiness and identify areas needing improvement, and there's also a terrific chapter on regaining trust after it's been lost or somehow compromised.

I would argue that, in these challenging times, trust is both more important and much harder to come by in our daily lives. Gitomer has helped me see that, in many ways, my success or failure may ultimately boil down to how well I do in building and sustaining my trusting relationships – a point I plan on taking to heart in meeting prospective clients in the weeks and months to come.

Clearly, trust is a huge topic, and no one source can provide all the answers – but Gitomer certainly offers a great place to start. And you can trust me on that! WS

Mike Farley is a landscape architect with more than 20 years of experience and is currently a designer/project manager for Claffey Pools in Southlake, 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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