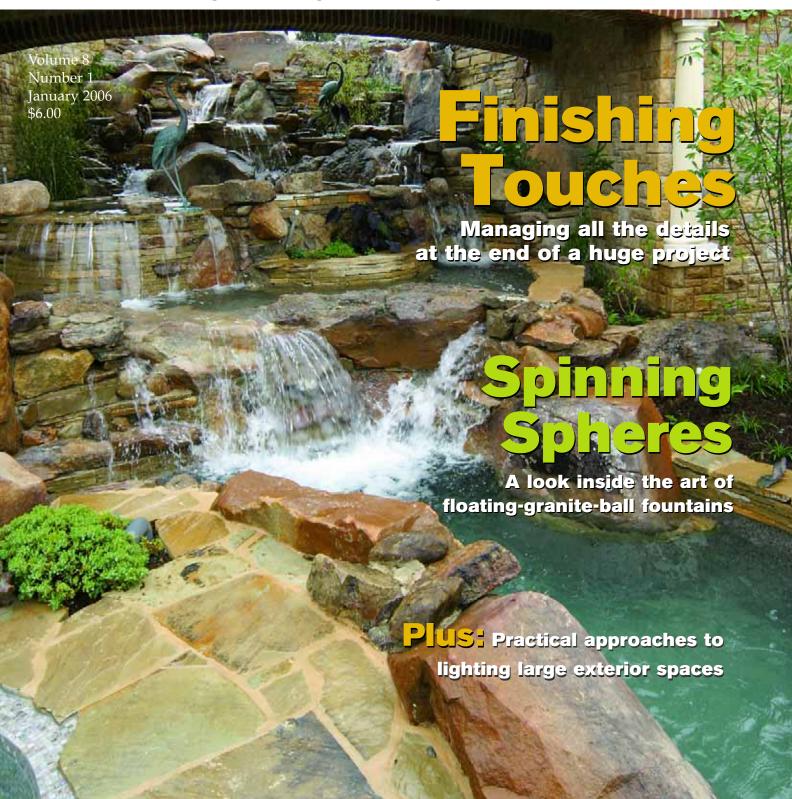
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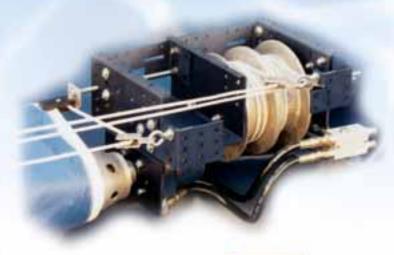
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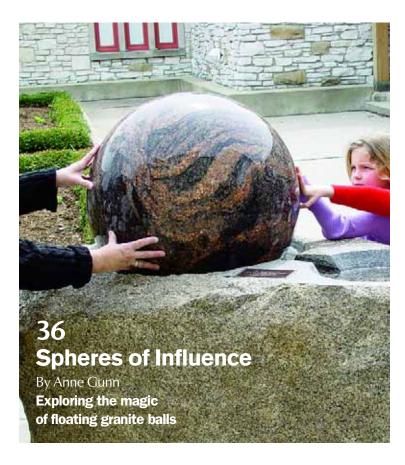


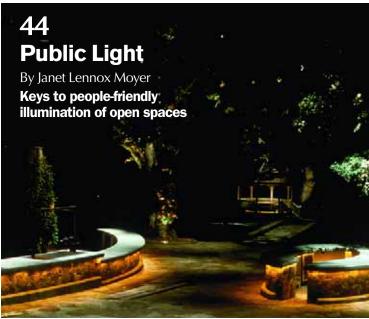


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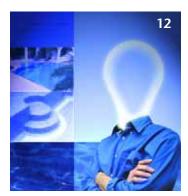


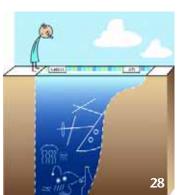


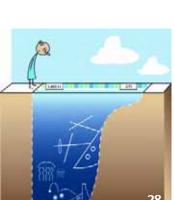
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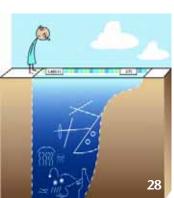


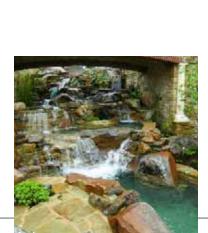












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Photo by David Tisherman, courtesy Liquid Design, Cherry Hill, N.J.

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By Eric Herman

# **An Emergent Profession**

As I was graduating from college many years ago, one of my professors predicted that more than 30 percent of us would eventually hold jobs that hadn't been invented yet. With the emergence of the Internet and other mass-communication technologies in recent years, I'd say he was being conservative with his forecast.

It's exciting to think we live at a time when new vocations are constantly emerging as employment options. And it's exciting to point out that one of these new professions – that of the watershape-design consultant – has fluorished in our industry just within the short span of years in which this magazine has been published.

Our own Brian Van Bower is someone who gravitated to and has in some ways defined this profession. Indeed, he now works entirely in a consulting capacity.

As recently as 1999 when we launched *WaterShapes*, he was still working as a contractor as well as a designer. In the intervening years, however, he recognized a growing demand for design-only consultation and (at no small risk) stepped entirely away from contracting. His gamble paid off, and he now consults worldwide on scores of residential and commercial projects annually.

He tells this story in greater detail in his "Aqua Culture" column this time out – and also makes a compelling case that there's much more to come as we watch this new profession grow to maturity.

From my perspective, the advent of watershape consultancies can only be viewed as a positive: On the one hand, I see the demand for such expertise among architects, designers and property owners as evidence of the growing sophistication of watershaping across the spectrum of project types. On the other, I see this new profession as being capable of leading the entire industry to a new creative focus on clients' needs and wants with respect to style, innovation, quality and execution.

I welcome this as another step toward elevating the appreciation of watershapes within the greater design community and helping us leave behind the impression that designing a pool or fountain or waterfeature involves little more than making a blue squiggle on a flat plan. It's never been that simple, of course, but for ages watershapes have been dismissed as incidental rather than integral.

The way I see it, Brian and others like him are in the vanguard, and the work they're doing says a lot about the future – all of it positive.

### 

It's probably not something any of you could have guessed, but for many years now I've wanted to run an article about bridges. I've been fascinated by them since I was a kid, and I've always been interested in the natural relationship between bridges and bodies of water of every size and description.

Despite that interest, however, I could never connect the dots and come up with a good story to tell – until recently at the American Society of Landscape Architects' expo in Florida, where I met Dan Moosman and finally saw a way to make bridges more than an incidental part of a story about a pond, stream or pool.

Dan is a wonderful artist whose bridges feature graceful Arts & Crafts styling. It's absolutely a case in which his philosophy, practical skills and aesthetic sense align with ours at *WaterShapes*, as you'll see for yourselves at long last on page 52.

Eu Hemm



### **Editor**

Eric Herman — 714.449-1905

#### **Associate Editor**

Melissa Anderson Burress—818.715-9776

### **Contributing Editors**

Brian Van Bower David Tisherman Stephanie Rose Mike Farley

#### **Art Director**

Rick Leddy

### **Production Manager**

Robin Wilzbach — 818.783-3821

### **Circulation Manager**

Simone Sanoian — 818.715-9776

### **National Sales Manager**

Camma Barsily — 310.979-0335

#### **Publisher**

James McCloskey — 818.715-9776

### **Publishing Office**

McCloskey Communications, Inc. P.O. Box 306

Woodland Hills, CA 91365

Tel: 818.715-9776 • Fax: 818.715-9059

e-mail: main@watershapes.com website: www.watershapes.com

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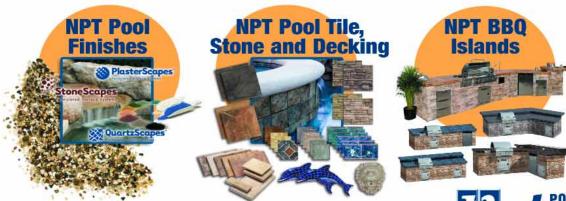












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### **January's Writers**

Anne Gunn is a fountain consultant for HydroDramatics, the full-service fountain division of Missouri Machinery & Engineering Co. in St. Louis. An affiliate member of both the American Society of Landscape Architects and the American Institute of Architects, she joined HydroDramatics and became part of the fountain industry in 1996 after a 22-year career in industrial sales for the steel industry. The firm, a leading designer and installer of architectural fountains throughout the United States and internationally, is widely known for its work on such prominent projects as the St. Louis waterfront's Gateway Geyser – the world's tallest fountain – and the fountain for the U.S. Embassy in Moscow.

Janet Lennox Moyer is founder and principle designer for MSH Visual Planners, a landscape-lighting-design firm in Brunswick, N.Y. She started her career as an interior designer for commercial and residential clients before shifting her focus exclusively to landscape lighting in 1983. Since then, she has designed a broad array of highly prestigious projects worldwide. In 1991, she wrote *The Landscape Lighting Book* (John Wiley & Sons, Inc.), the second edition of which was published in 2005. Moyer has lectured extensively and is widely considered one of the world's foremost experts in the field of landscape lighting.

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Dan Moosman is president and founder of Moosman Bridge, a manufacturer of wooden bridges based in Valentine, Neb. A lifetime woodworker, homebuilder and craftsperson, Moosman has constructed wooden and timber-frame custom homes as well as highway bridges and a range of wooden structures throughout the Western and Midwestern United States. He started his current business eight years ago after recognizing a niche in the landscape industries for small wood-and-steel bridges. He also continues to build custom wooden homes in his spare time.

**David Tisherman** is the principal in two

design/construction firms: David
Tisherman's Visuals in Manhattan Beach,
Calif., and Liquid Design of Cherry Hill, N.J.
A designer and builder of custom, high-end
swimming pools since 1979, he is widely
known in the pool and spa industry as an advocate for the highest possible standards of
design, engineering and construction. He has
degrees and credentials in industrial design,
scientific illustration and architectural drawing from Harvard University and Art Center
College of Design and has taught architectural
rendering and presentation at UCLA. An
award-winning designer, he serves as an industry expert for California's Contractor State



### in this issue

License Board. Tisherman is a co-founder of and principal instructor for the Genesis 3 Design Group.

Brian Van Bower operates Aquatic Consultants in Miami and is a co-founder of the Genesis 3 Design Group. With more than 35 years' experience in the swimming pool and spa industry, he now specializes in the design of swimming pools, recreational areas and hydrotherapy clinics. As a consultant, he also conducts training and inspections and serves as an expert witness in insurance investigations. From his start with pools in 1967, he's been a pool manager, service technician and contractor, operating Van Bower Pool, Patio & Spas from 1971 until 1991. He began consulting in 1989 and co-founded Van Bower & Wiren in 1995 to specialize in high-end pool-construction projects. He's been active in trade associations throughout his career at the local, regional and national levels, has won numerous design awards and has been inducted into the Swimming Pool Hall of Fame.

**Stephanie Rose** runs Stephanie Rose Landscape Design in Encino, Calif. Once a New York securities analyst, she gave up Wall Street



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more than 16 years ago to pursue a career in landscape design – and has never looked back. Her firm specializes in residential gardens for upscale clients in the Los Angeles area, where the lengthy planting season and mild climate provide tremendous creative freedom and year-round work. Her projects frequently include collaborations with custom pool builders, a cross-disciplinary blending of perspectives and skills she sees as having profound potential for professionals on both sides of the relationship. Rose was a featured designer for episodes of "The Surprise Gardener" on HGTV and is an instructor for the Genesis 3 Design Schools.

Mike Farley is a landscape architect with more than 20 years' experience and is currently a designer/project manager for Gohlke Pools in Denton, Texas. After receiving his degree in landscape architecture from Texas Tech University, he began his professional cereer in California with a high-end landscape-design firm through which he became involved in several pool-remodeling projects. He later joined Geremia Pools in Sacramento, Calif., where he worked for six years before returning to Texas in 1998. A graduate of the Genesis 3 schools, he assumed his current position in the fall of 2003.



By Brian Van Bower

# **A Powerful Niche**



Ithough watershapers have long been available to consult on other watershapers' designs and many of us have formally made such services available for quite a few years now, it is only recently that this consulting niche in the watershaping world has emerged as what can be called a profession.

Indeed, I know of several people who now make a living that way – and they've done so despite the fact that most have encountered skepticism and even occasional derision from architects, landscape architects and pool contractors.

Until recently, after all, "pool design" was generally a service that existed almost exclusively to support the sales efforts of contractors. These folks, who were accustomed to getting or providing their designs for free, weren't exactly prepared to consider a role for outsiders whose profession was the non-stop pursuit of creative, dynamic and effective watershapes.

The result of this emergence is that we operate today in a transformed industry in which professional designers are available to support the design and construction processes who have a pure focus on water and the way it relates to its surroundings.

Watershaping as a profession is coming of age, and those of us who are prepared to move into consulting roles are walking into a widening marketplace filled with an ever-increasing demand.

### setting the table

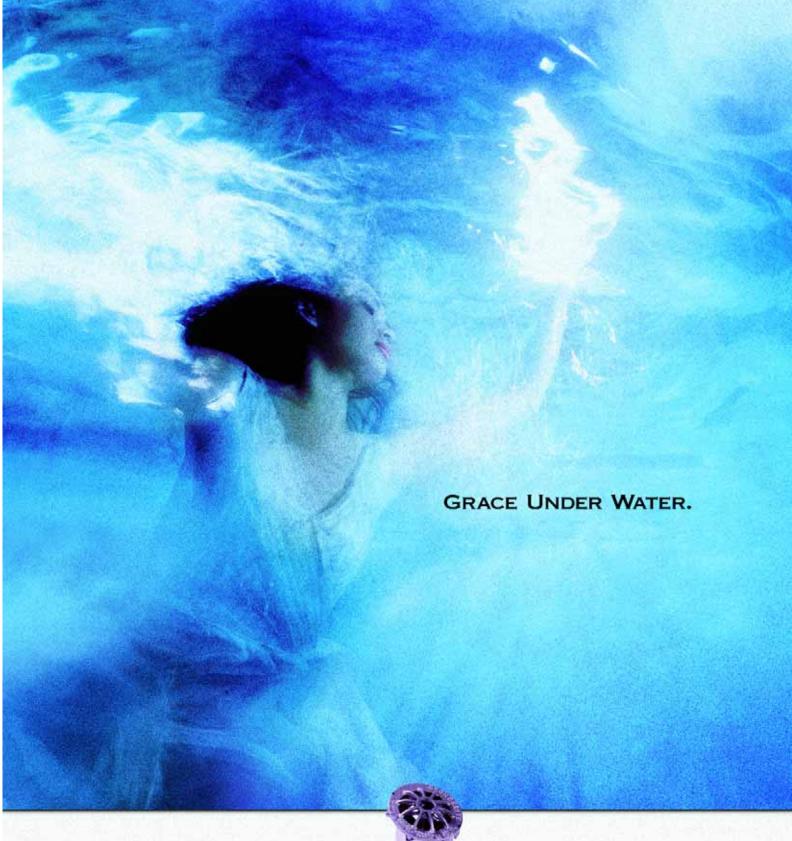
The demand for watershape-design consulting has emerged from a variety of circumstances that all have one thing in common: the unique, single-minded desire on the part of clients to do something truly special with water. As one project leads to another and one satisfied client begets the next, what happens is that the consultant's role as part of the design team expands and becomes more significant.

Forgive me if it seems immodest, but the best examples I can offer to illustrate the potency of this trend will have to do with my own work in this budding profession. Yes, I'm proud that my abilities, continuing education and hard work are consistently leading me to bigger and bigger roles as a watershape consultant, but I also easily see a larger picture of which I'm only a part.

I take what's going on as a sure sign that, in a profound way, watershaping as a profession is coming of age and that those of us who are prepared to move into consulting roles are, I believe, walking into a widening marketplace filled with an ever-increasing demand. Those who are not pursuing this avenue can, I hope, at least begin to appreciate the need for this service.

As I've suggested before in these pages, the expertise required for consulting work develops via multiple and not necessarily direct paths. In my case, I came up through the ranks of pool and spa service and contracting, developing skills by the sweat of my brow and an insatiable hunger for ongoing professional education.

For others, the path to a consulting role might be based on a combination of formal design education and hard-won technical expertise in contracting – or on some other means of collecting and expressing expertise. A consultant may be



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### aqua culture

a former pool contractor who worked hard to develop design skills – or a landscape designer, landscape architect, architect or structural engineer who augments design insights with familiarity with the gritty world of construction.

In the past, the gap between design and construction was seldom bridged by anyone from one side or the other. Today, however, we see a growing number of professionals who operate comfortably on both sides and in the middle and who, like me and some others I know, have found ways of supporting architects and designers as well as contractors in what they do.

By interposing this role of the consultant into the overall watershaping mix, we

who occupy this space enable everyone else – architects, general contractors, landscape architects, landscape designers, pool contractors and various sub-trades – to keep their eyes trained on what they do best while leaving the task of creative watershaping to experts who know what it takes to meet clients' desires and/or extend their imaginations.

### twists and turns

The role of consultants has also expanded because many of those who once scoffed at the notion of paying for watershape consulting now warmly accept the role and view it as indispensable in many situations.

Not long ago, for example, I was brought in on a project for a client who was building a \$43-million estate in rural Tennessee. The project had started in the traditional way: A landscape architect had a developed the general concept of an elaborate swimming pool and had hired a reputable, competent contractor to flesh out and execute the design. In this case, however, the contractor had the gumption to recognize that the project had details that he was not fully familiar with and that he could use some outside expertise.

Part of the plan included a string of deck-mounted laminar jets, 18 of them in all. Recognizing the complexity of such a system, the contractor sought my help on just that part of the program. By the time I visited the site, the pool was well into the construction phase: The forms had been set, the steel and plumbing had already been installed and the concrete floor of the pool had already been poured. On the day I arrived, a gunite crew was preparing to shoot the walls of the shell.

The basic design wasn't bad at all. It had an appealing shape and seemed to be well considered in both scale and placement within the space. I could see real potential for something quite special if the contractor could get the advice he needed to make everything come together.

We were all to meet – the client, the



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client's representative, the project manager, the pool contractor and me. I immediately saw that the client was extremely interested in creating an environment that would be entirely unique to the area: He was, in fact, completely unashamed of his desire to impress with *every* aspect of the home he was creating.

During our conversation, he asked me to show him some all-tile interior finishes and custom tile mosaics so we could consider adding these elements. I pulled out my laptop and some books featuring my projects and started showing him things I'd done that had features I thought he wanted.

As we rolled through these images, he

quickly developed a keen interest in designs that featured perimeter-overflow treatments and asked me if we could do something like that with his pool. He knew, of course, that this was hardly the time to be contemplating such a change, but he wondered nonetheless if it was too late to shift directions.

"In America," I told him, "it's never too late."

### away we go

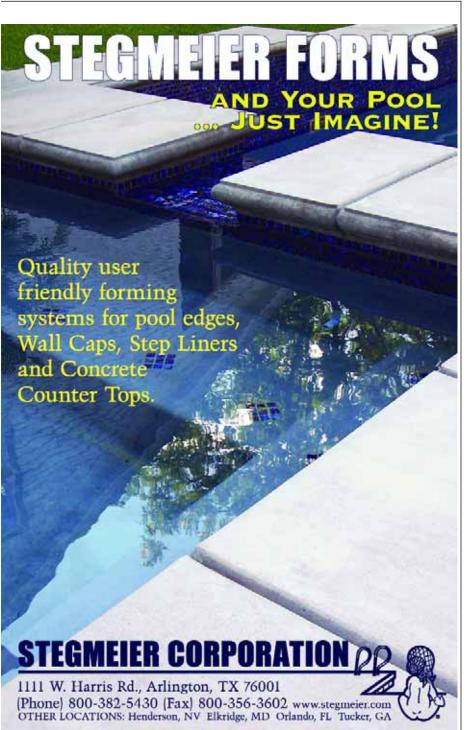
At this point, the gunite crew was moments away from opening the nozzles and letting the concrete fly. We held them up for a few minutes so we could walk around the pool and discuss possibilities.

We talked about the fact that revising the forms and the entire plumbing system to implement the perimeter-over-flow system at this stage would entail a great deal of extra work and added expense. From the clients' perspective, expense was not an issue. From the contractor's point of view, however, the immensity of the possible change order was something that would give anyone cause for concern and anxiety.

In days gone by, I know that a majority of contractors would loudly have resisted the idea of making such a radical change. In this case, however, the contractor moved beyond that and, once he caught his bearings, expressed enthusiasm about the opportunity to turn the project into something truly breathtaking. I must say I was quite relieved (and impressed) by his reaction, because I myself was feeling somewhat guilty about the immensity of the proposed changes.

All in all, it was his performance that was the most impressive: He had already shown a level of sophistication in calling for help with the laminar jets. Now, as he directed the gunite crew to pack up and pull off the project for the time being, it was clear that he had bought into my role as consultant and saw me as a resource that would make everything work not only for the client, but for the contractor as well.

By now, the client was pretty fired up



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Many of those who once scoffed at the notion of paying for watershape consulting now warmly accept the role and view it as indispensable in many situations.

by the idea of adding even more complexity to the design. Turning the topic away from the edge treatment to the laminar jets, he began asking what we could do to upgrade the look and wondered if we could make them "leap." I told him that we could make the jets not only leap, but that we could also make them do it while changing colors – and in time to music.

He seemed pleased and said, "That's what I want."

By the time I left the site that first day, my involvement had grown from offering some practical advice about the laminar system to redesigning the edge treatment; revamping the entire circulation system; and dramatically upgrading the laminar-jet system. Best of all, everyone in the loop was happy with the way things were moving – a scenario I couldn't have imagined unfolding in such a positive manner even a few years previously.

### up to par

Back in my shop, we went to work in redesigning the system, a process that yielded a further example of what watershape consulting is really all about: It's one thing to gain approval for creative ideas, it's another to execute them properly in the design-development phase.

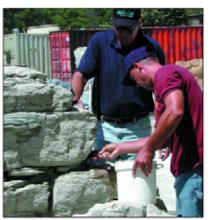
In this case, we were specifying a perimeter-overflow system that would be pushing approximately 150 gallons per minute over the edge. This meant we had to design slot overflows and plumbing manifolds to accommodate that flow plus the bather-surge capacity to be contained in this case in a large sub-



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### aqua culture

The creative explosion now taking place in watershaping puts everyone in new and adventurous places.

grade surge tank.

We were working up the hydraulic design when it dawned on me that we were about to make a serious mistake.

We'd failed to that point to factor in the 18 laminar leaper jets, which, when activated, could be sending up to an additional 270 gallons of water per minute into the pool. Because we'd decided that the laminar jet system would draw water from the perimeter overflow's surge tank, what we were really looking at – rather than 150 gallons per minute – was a possible flow of 420 gallons per minute plus bather surge in our gravity-flow system's design calculations.

Once we recognized the shortfall, we easily amended our design by upsizing the plumbing loop to eight inches and increasing the size and frequency of the trunk lines from the overflow system back to the surge tank. Had this issue gone unnoticed, the resulting, undersized system would have flooded the decks and been the subject of a major renovation in rapid order.

This leads to a major point about consulting work: If you decide to move into this arena, you have to be prepared to take full responsibility for your designs, stand by your work and be completely sure you have the expertise to do things right. In this case, we'd done lots of perimeter-overflow systems and worked with lots of laminar jets, and it took us a little while (but, fortunately, not too long) to catch up with the realities of combining them in one system.

The point is, the creative explosion now taking place in watershaping puts everyone in new and adventurous places. I am not alone in worrying that this explosion will lead many to jump prematurely into the consulting marketplace in the hope of capitalizing on a trend.

Not only is this participation of the unprepared a hazard to what I see as an emerging profession: I've already seen consulting businesses that charge a pittance for their designs, operating with the traditional pool industry mentality that says "cheaper is better." This is a concern, of course, because experience tells me that less is definitely not more in this arena.

### finding ways

The basic idea behind consulting is that you provide a specialized service that is worth the cost in terms of obtaining a superior result. To me, it defeats the point of the entire profession to seek business based on the fact that you can do something for less.

This is especially true in a marketplace in which clients, architects, designers and contractors are not averse to paying for what they consider to be exclusive expertise. Some actually revel in the idea that they had to pay a premium to bring in "just the right person."

Certainly, this is an evolving situation and there are people operating at different levels in terms of complexity and sophistication that are reflected in pricing. From my perspective, however, one of the real attractions to consulting is that it offers a clear path away from the sort of margin-based competition that drives much of the industry to this day.

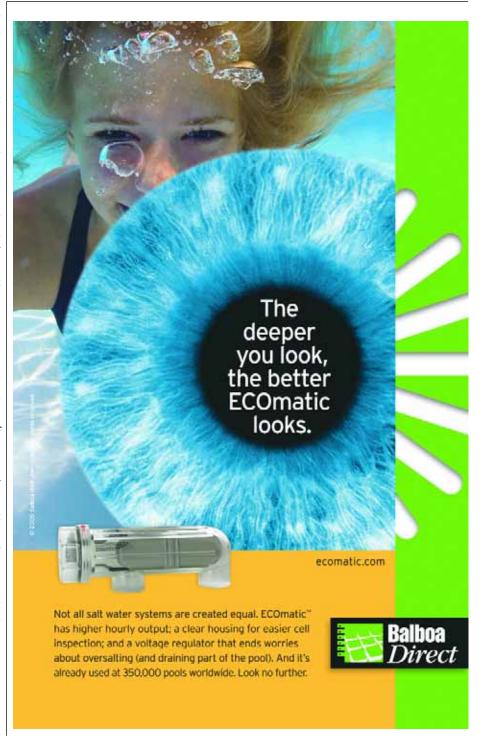
That's a good thing, but as with any emerging entity, it's experiencing growing pains and needs some nurturing if it is to thrive.

I have every reason to be hopeful. After all, the presence of a consultant enables the landscape architect or architect or designer to obtain designs well beyond what they might achieve themselves or might have been able to hire a contractor to execute. On the flip side, it allows contractors to elicit apples-to-apples quotes during the bidding process while freeing up their time to focus on the often-enormous challenges of installation.

By the same token, I'm neither so optimistic nor naïve to think that design consultation will quickly take hold on all levels of the industry. There will always be contractors who offer competent design services and designers who know enough about construction to make everything work. Given the industry-shaping trends we've seen through the

past few years, however, it's clear to me that the role of the design consultant is here to stay.

In my next column, I'll continue this discussion with further examples of how consultants are playing increasingly important roles in watershape design and construction.



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**By Stephanie Rose** 

# Searching for Perfection

Ithough we think of them together as activities in the world of exterior design, watershaping and landscaping have some significant distinctions.

The watershapers who design and build pools, spas, fountains and water-features, for instance, fully intend them to be structurally static and unchanging (a firm hope, anyway, especially in earthquake country) once they are completed. By contrast, the landscape professionals who design and install the gardens, trees and plants that may surround a watershape work with dynamic, constantly changing materials.

What this means is that perfection is a much more elusive quality for land-scape professionals by comparison to watershapers. Indeed, for us on the green side, achieving the kind of perfection one often perceives in a brilliant pool, fountain or water sculpture is nearly impossible – unless, that is, we can teach our clients that perfection is something that is constantly evolving right before their eyes.

Where great architects can build homes described as perfect and they will generally stay that way, creating a landscape that can be called perfect is a different proposition.

### static vs. dynamic

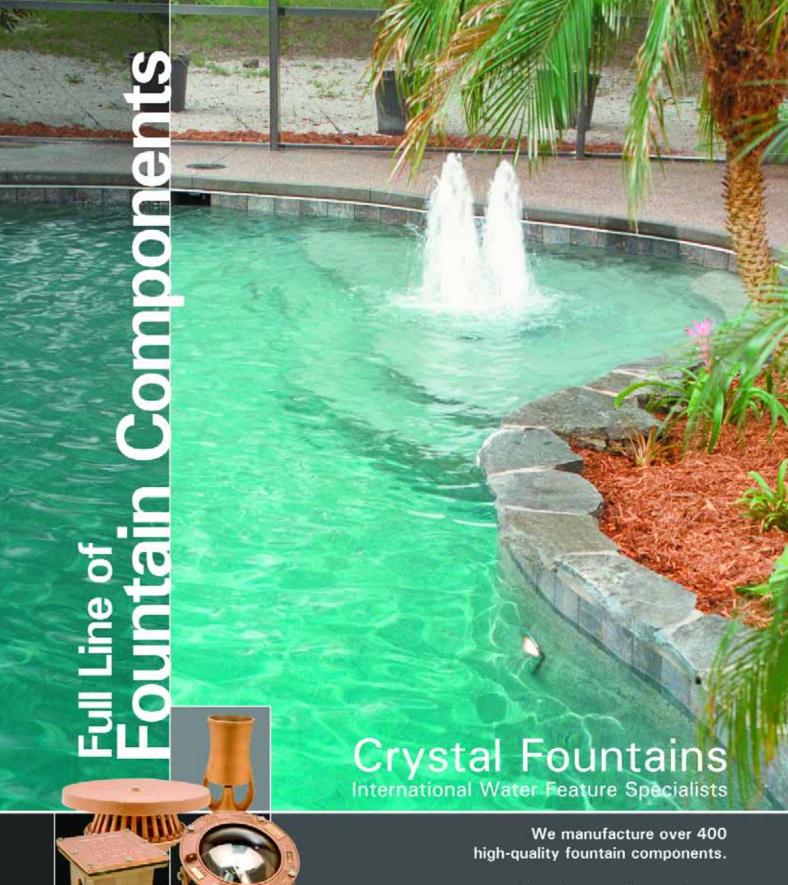
Since time immemorial, our shelters and other "permanent" structures have remained in place unless destroyed by nature, dismantled by people or obliterated by war. Even a strong, secure house may be shattered by storm or flood, as recent history has demonstrated. During its useful lifetime, however, that structure was static and unchanging save for repainting, repairs or renovations. It wouldn't change on a daily basis unless something made it do so.

Plant material is, by comparison, completely dynamic. Its shapes, structures, sizes and other defining characteristics (short of DNA) are constantly shifting, so much so that it might be said, every second of every day, that a plant is always changing in some way. It grows in size, it falls prey to plant diseases, it sheds its leaves in the fall – and every individual plant is different.

Where great architects can build homes described as perfect and they will generally stay that way, creating a landscape that can be called perfect is a different proposition. Hardscape elements will remain in place, of course, and won't grow or shrink. And if they're not perfect, they can be modified as needed to attain that goal by adding height to a wall, expanding a deck or changing the course of a walkway.

When designing a planting plan, however, we're engaged in a more abstract process. Most designers and landscape architects of any standing are able to visualize what a planting design will look like when initially installed and when fully mature. Some of us are able to describe this to our clients, even to the point of setting milestones and enabling them to track progress toward maturity.

No matter how hard you try or how much you educate or inform your clients about the



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process, however, you inevitably will encounter clients whose notions of evolving perfection will *never* coincide with yours. With such a hard case, you won't even be able to establish a means by which you can even understand what they mean when they talk about what they want – in other words, their idea of perfection.

I'm sure most of you have had the ex-

perience of butting heads with such a client. I've known my share, and I want to use one of them to explore the distinction between the senses of perfection with which watershapers and landscape professionals work every day.

### a case study

I recently had a client with whom I had

You inevitably will encounter clients whose notions of evolving perfection will *never* coincide with yours.

communicated for about three years off and on before she finally hired me to design her garden. I'm a patient person, and I don't have a problem with those who need to get "comfortable" with me and my work before committing to the design process.

Her house was a traditional, Spanishstyle structure with a veranda in back opening out onto a grand lawn surrounded by mature shade trees. We talked at length about the need to thin out those trees before garden installation began – and then regularly during the first few years after planting.

I explained to her that pruning back the trees would help the plants get established and would offer her a better view of her new garden – and more light by which to see the plants. For some reason, I also began to feel a need to point out certain risks and address issues that might affect the planting as I began to see the challenge of addressing her ideal view of perfection.

In addition to the garden, she'd asked me to design a pond and some kind of waterfeature all set within a meadow consisting of plants that would attract birds and butterflies. I suggested placing one of these elements on the far side of the lawn – the better to draw visitors out into the garden, I said, perhaps with a path terminating at a bench where people could sit and take in the entire setting.

With these concepts in mind, we went about researching specific plants through books and nursery visits. I developed a preliminary hardscape and planting plan that included everything her heart seemed to desire. At our next meeting, however, she vetoed all the hardscape elements for reasons too various to mention.

Limiting our discussion strictly to plants, we confirmed that she still liked

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the plant palette and made a few adjustments – mostly to add a few plants she'd discovered and to eliminate a few with which she clearly wasn't thrilled.

Long story short: The resulting planting plan identified specific locations of all plants of five-gallon and larger sizes and noted bordered locations for all plants one gallon and smaller. As I've discussed before, I use this dividing line of container size because locating every small plant can make a plan unreadable. (I've also concluded that depicting "wild" on a plan is virtually impossible.)

To compensate for not visually representing all plants on the plan, I made extensive notations to be sure it was clear (or so I thought) that the "wild" look of the garden would evolve over time as the plants grew and that dashed lines on the plan were used to delineate groupings of plants and to set general rather than specific locations. I made it clear, I thought, that during installation borderlines would be blended and woven

together so that no distinctions would be discernable later on.

### winding roads

Believing I had addressed all my client's issues to utter perfection (that critical word!), I left her with the plan and went about getting bids for installation.

Before any of that could happen, the client started calling with questions and changes. It wasn't completely clear to her, for example, which plants would attract butterflies. I headed that one off by sending her a plant list that identified which plants were bird and butterfly attractors and even noted on a copy of the final plan where I would place a butterfly house.

That seemed to take care of things, so I continued gathering the bids.

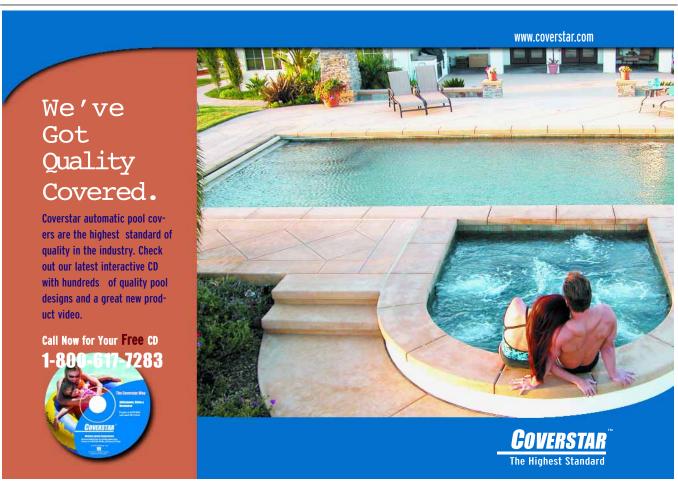
A couple of weeks later, she called me and informed me that she was certain I didn't understand what she wanted in her garden. It wasn't clear from the plan what the plants would look like and it all seemed too structured to her. A couple

of exhaustive phone calls and a pile of renderings later, it finally dawned on me that no matter what I did to explain or support the design and how I intended to install it, she would probably never be satisfied

I now started to add up all the time I'd spent talking with her in the years before the project started, all the time in the give and take since she'd hired me, all the time spent basically defending my design and revisions of that design to someone who simply couldn't visualize things well enough to explain herself and her own ideas to achieve the sort of perfection she was after.

But on I went: I pride myself in being a pretty good listener, and, one more time, I repeated back to her all her wants, needs and desires as she had expressed them to me.

Our final phone conversation showed me that she was completely convinced that nothing I would do on the day I installed the planting had a prayer of leav-



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ing her satisfied. As I explained to her, landscaping is a bit of a leap of faith. Homeowners need to interview designers and be comfortable during the working process and have a sense that everything's proceeding according to their desires. There also needs to be a way for them to express concerns or, in extreme cases, pull the plug.

By this point I was more than a bit exasperated as I explained again that no planting looks like what you've envisioned the minute installation is complete. It's nature, after all. It's dynamic, constantly changing.

Not good enough: She wanted something that was the perfect embodiment of what she had in mind, and unfortu-

nately I was unable to match that vision with my one-dimensional plan. Case closed – except that after the terminal conversation, I recalled I was the second designer to have been run through this wringer by her – something that probably should have been a sign to me from the start.

### lesson learned

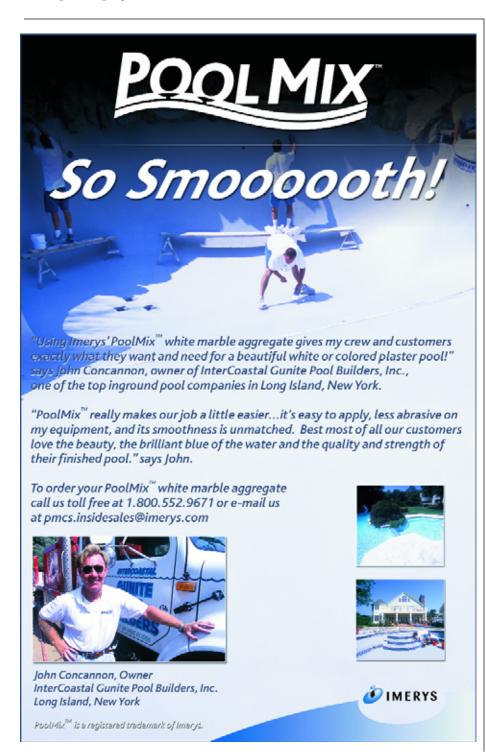
In 16 years of practice, I have, of course, had clients with whom things just didn't work out. That happens in all businesses, and if there's a lesson to be learned in a case like the one described above, it's that it is critical to establish compatibility with clients early in the process. In that sense, we're all psychologists of a sort, taking what's going on in clients' minds and translating it onto paper and ultimately into a three-dimensional creation.

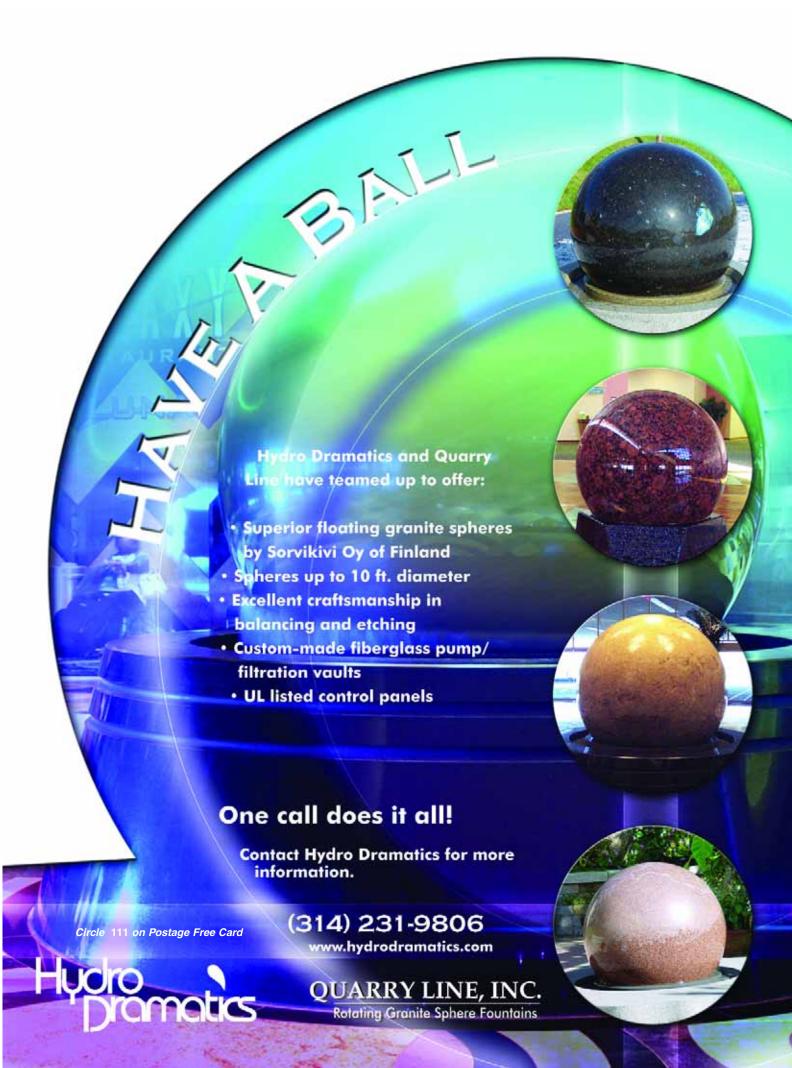
But plants are not the perfect artistic medium, and there's the distinct possibility that even if the process goes well and the garden is installed, some of your clients will be less than completely satisfied. That fact, however, doesn't relieve any of us of the need to strive to create designs that reach toward our own versions of perfection as well as those of our clients.

For me, talking about these factors and coming to an understanding about the nature of plants and their tentative, dynamic relationship with perfection is something I now do with all of my clients. They need to understand that a garden is not like a building. It can't be drawn on paper the way a building can. Even the best rendering captures only a single moment in time, not a dynamic reality.

The way I look at it now, I guide my clients toward an understanding that everything in a garden is actually perfect exactly the way it is at any specific moment. It will change daily, and that's part of the unique quality that makes plants and landscaping such a challenging yet rewarding art.

Perfection can be dynamic if we allow ourselves to accept that landscaping is not an exact science and requires nurturing and constant care and attention as it changes – sort of like people.





**By David Tisherman** 

# Off the Deep End

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big part of properly designing watershapes to meet specific client needs has to do with understanding how they'll be using the body of water. I always explore this issue with my clients, which is why, for the most part, I don't do many pools with traditional deep ends – despite the fact that, for decades, most pools have been built with them. To me, in fact, the whole concept of deep water in residential swimming pools is basically misguided and largely obsolete.

Consider exactly what it is that bathers can do in the deep end of a pool: They might dive, tread water or swim to the bottom to retrieve coins or pool toys – and, unfortunately, they can drown there, too. Yes, people also drown in shallow water, but there's no doubt that deeper waters provide greater levels of risk and hazard for non-swimmers, inexperienced swimmers or small children.

On a less dramatic but still-significant level, deep ends require a bit more more effort to clean and, because they expand the overall volume of water in When push comes to shove, my clients are telling me that they neither want nor need deep water – that's definitely the trend.

a given pool, increase the cost of both heating and chemical treatment. In many cases, deep water also comes with dramatic temperature variations that can make exploring the depths an unpleasant experience.

By contrast, shallow ends provide a far greater variety of recreational opportunities, from playing with small children to games of volleyball or basketball. Even a classic game like Marco Polo is facilitated by shallower water. Shallow water is also perfectly adequate for lap swimming and ideal for swimming instruction.

### flat out

Assuming that the majority of aquatic play, exercise and relaxation take place in shallow water, it's also a given that large percentages of children and adults will, given a choice, spend most if not *all* of their time in the shallows or on beach entries, steps, benches or thermal ledges.

Even the big commercial and institutional watershapes get this: Most of recent vintage include big shallow areas because designers and managers all know that the presence of these waters increases the utility of almost any watershape.

That said, I do occasionally build a deep end into a pool when the client wants one – in about one out of ten projects (and probably less) these days. It's usually a family with teenage kids or grandkids that wants an area with diving rocks, for example – a situation that requires deeper water for safe diving.

To that point, let's be clear that a great deal of pool-industry research has gone into the issue of how potentially catastrophic diving accidents can be avoided. For any body of water meant for forms of exercise or play that involve diving, standards for depth requirements should always be followed.

More and more these days, however, when

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### tisherman: detail 59

push comes to shove my clients are telling me that they neither want nor need deep water – that's definitely the trend. As a result, most of my projects for new vessels are now for what I'd call "play pools" with depths between three-and-a-half and four-and-a-half feet. I've also seen in my remodeling work that many of my clients want to see their

pools brought up to nearly uniform shallow depths.

This brings me to the subject of this column: In some respects, raising the floor of a deep end is a straightforward process, but as is the case with most everything in the art of watershaping, there's a right way and wrong way to get the job done.

Most of my projects for new vessels are now for what I'd call 'play pools' with depths between three-and-a-half and four-and-a-half feet.

Let's start with the basics: Those of us familiar with concrete know that it is invariably stronger with steel than it is without steel. We also know that steel prevents shrinkage, meaning that, when you raise the bottom, it should be done using structural steel along with the poured concrete, shotcrete or gunite. Filling in the depths with an un-reinforced mass of cementitious material will surely lead to failure through cracking or delamination or both.

If you're among those who persist in adding yards of new material to pool bottoms (or benches or steps, for that matter) without structural steel, it's time to change your approach. (If Rule 1 is that steel goes into everything, then Rule 2 is that you never use rebound, *period*.)

### simple steps

You should *never* install new concrete over an existing plaster finish, so I always start the process by chipping out the existing finish.

Once that's done, I chisel a notch two to three inches deep around the full perimeter of the pool where the new material will interface with the existing shell. My intention here is to create a substantial cut that will accept the edge of the new concrete.

Look at it this way: The contour of most pool bottoms is formed to create a smooth transition from deep to shallow areas. When you apply new concrete to that taper as is, the fresh material will become thinner and thinner as new work is feathered into old.

If you're doing things that way, consider this: With feathering, the concrete becomes a half-inch think, then an eighth-of-an-inch thick, then a thickness so minuscule you'd need a micrometer to measure it. That accom-





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### tisherman: detail 59

plishes nothing, because there will be a delamination bonanza along the edge of the new concrete.

What I do by chipping out a notch is create a pan in which the new concrete will never be less than a couple of inches thick. When paired with steel – I use #3 bars at 12-inch intervals in both directions, with vertical bars as well if we're pouring

more than a foot of new concrete -a much more reliable structure will result.

Anyway, once the old finish has been cleared, I mark the shell with spray paint to indicate the location of the notch. We established that level using a transit, measuring down from the waterline of the pool. We then chip out the marked notch all the way around the perimeter

of the new bottom.

Next we drill holes in the bottom of the pool and insert new steel, locking it into place with hydraulic cement. In conjunction with the notch, this new steel essentially creates a form. We then either pump in concrete or apply gunite or shotcrete to fill the bottom. Now the thinnest material we will have at any point on the new floor is two inches thick.

In most remodeling situations, I had no involvement in building the pool in the first place and don't know the caliber of the construction. If it has been holding water successfully, I don't want to do anything to compromise the shell, which is why I seldom (if ever) use an approach in which holes are punched in the bottom of the old shell and gravel is inserted as a "form" over which a final layer of gunite or shotcrete is applied.

In all cases, my floor-raising projects involve the pouring of new concrete into the entire void – and I do so in full consultation with my structural engineer. (For more on the value of this input, see the sidebar below.)

Continued on page 34



If I may make one more important point related to "uplifting" projects of the sort discussed in the accompanying text, let me say that even for a comparatively simple detail such as raising a pool floor, I always consult my structural engineer, Mark Smith — a good friend and the best structural engineer for pools I've ever known.

In my view, any detail in a remodel or new construction requires the input of a structural engineer, and I consider mine to be one of my most important allies in any design/construction process.

Generally speaking, I see structural engineers' input and a properly devised structural plan as an insurance policy: No matter how simple the detail may be in concept or execution, there is no substitute for certainty when it comes to the structural design.

- **D.T.** 



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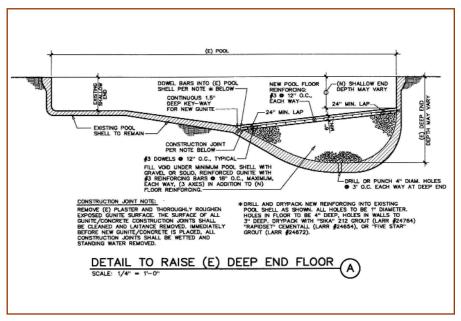
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### multiplied benefits

I seldom view raising a pool's floor as a single task: In most cases, such a project will enable us to upgrade a variety of plumbing details as well.

This floor-raising procedure, for example, generally provides enough room for installation of a new, split main drain that will minimize the risk of suction-entrapment incidents. And if raising the bottom is accompanied (as it often is) by the addition of new benches or steps, the new space in those structures allows for a complete system overhaul.

If you use those new benches or steps to carry new plumbing behind their steel, for instance, you have a golden (and comparatively affordable) opportunity to upsize smaller plumbing, redo the lighting, add new steps or benches and create a new circulation system that will have much greater efficiency—all encased in steel and concrete per industry standards and all accomplished without compromising the structural integrity of the original shell.



Even with something seemingly as simple as raising the floor of an existing pool, I always consult my structural engineer and make certain the work on site is done in accordance with his recommendations. The key here is the cutting of a notch in the old shell to ensure that the new concrete is of adequate thickness where it meets up with the original structure.



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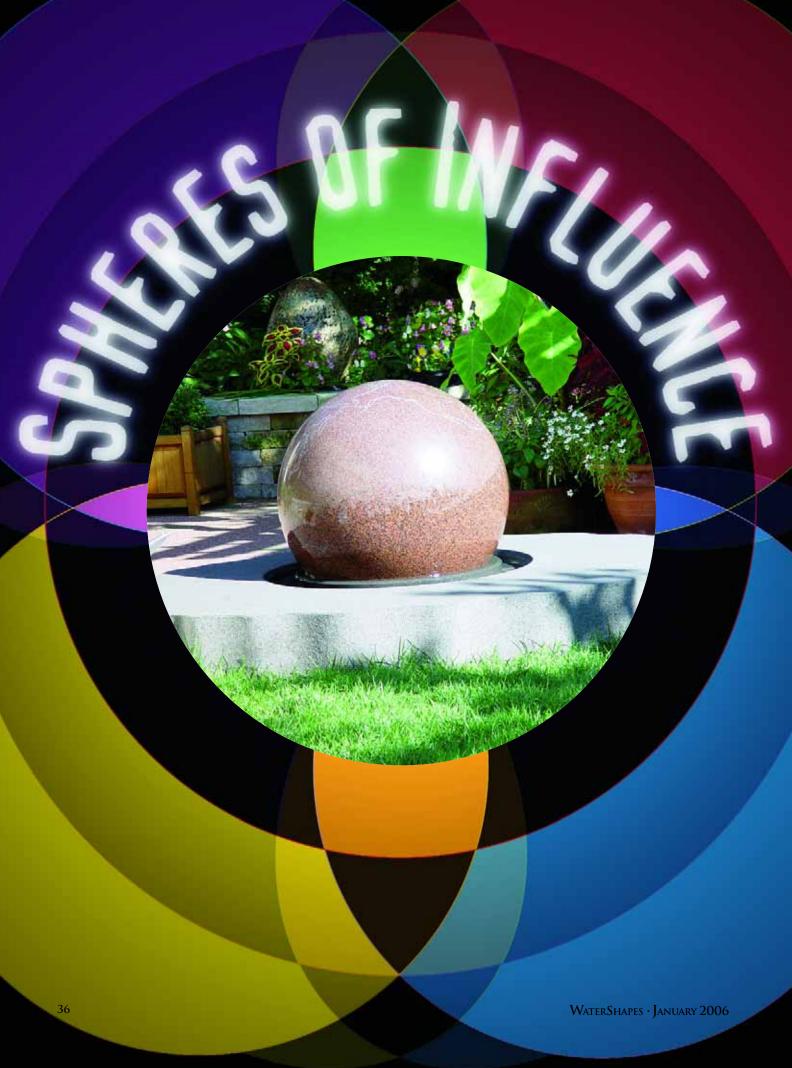
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If ever there was an example of the power of simplicity, it's been the rise of what we call floating-granite-ball fountains. They've been around since the early 1990s and are now found in a range of commercial and even residential settings.

I hadn't ever seen one when I joined HydroDramatics back in 1996, but I do know that soon after I started we began receiving a steady flow on inquiries about them – and it wasn't long before we received our first commission for a floating sphere for a major automobile manufacturer in Detroit.

As has been the case every time a prospect has asked about one of these fountains since then, school administrators wanted something interesting, interactive and sculptural, and the floating ball seemed the natural choice.

We've seen these engaging watershapes grow steadily in popularity through the years, so much so that they've effectively passed beyond "fad" status to become an accepted part of our repertoire. In fact, when we added them to our web site just a few years ago, inquiries about the spheres *really* started to flow – and they've continued to grow in numbers to this day.

#### **ROUND AND ROUND**

THE SLIGHTEST OF TOUCHES.

In concept, floating-granite-ball fountains are extremely simple: They include a large granite ball measuring anywhere from two to ten feet in diameter and a matching concave socket that envelops about 30 percent of the sphere's surface. When water flows into the socket, it is pressed to an infinitesimally thin sheet by the weight of the ball. Nonetheless, that small quantity of water causes the ball to hydroplane and enables it to rotate.

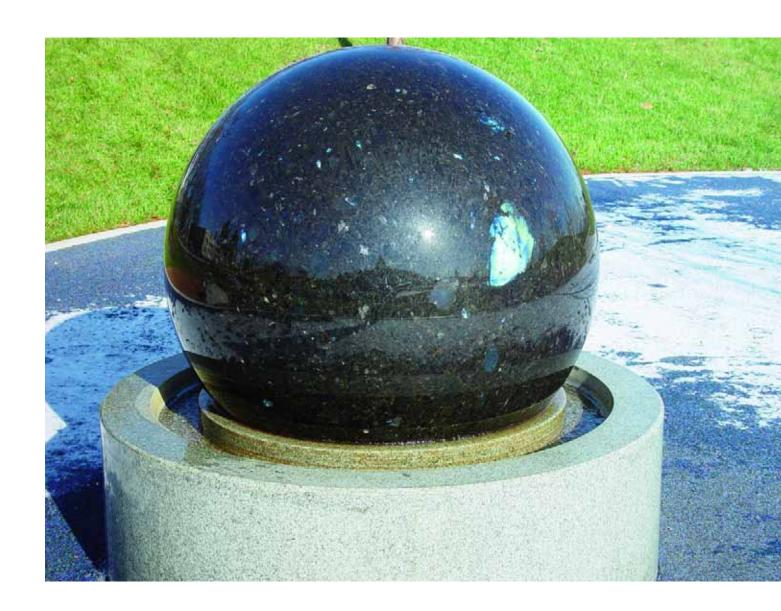
Achieving this dynamic effect obviously depends on having a perfectly machined tandem of sphere and socket. Any irregularity anywhere will stop the ball from floating and spinning. Once sphere and socket are matched, the socket is core drilled in one or two places (depending

upon the desired effect) to accommodate a lowpressure flow of water – typically between 12 and 20 pounds per square inch, which is about what you get from a garden hose.

The shiny, wet surfaces of the heavy granite balls are visually striking no matter where they are placed. As a result, we've provided these fountains for a wide range of clients and settings, including hospitals, casinos, universities, public spaces, business parks and highend residences.

As pretty and visually versatile as these objects may be, it's the interactive nature of these fountains that really give them their greatest appeal. When anyone looks at a ball of granite that may be up to ten feet across, they know it's heavy. The fact that they can walk up to it and move it freely with just their fingertips is a constant source of amazement. Kids love these fountains, but it's my sense that they're even more intriguing to adults who have a fuller understanding of just how heavy the ball is and how improbable is its ability to move so freely on a paper-thin sheet of water.

Stepping beyond that immediate attraction is a more enigmatic source of the appeal: Spherical forms are universal



icons in geometry, science, geometry and even religion. With a form that is symbolic and organic as well as architectural, these fountains work when set amid natural forms of plant and stone as well as within the rigid geometries of modern architecture.

And then there's the fun factor: These fountains are beautiful works of art that basically function as huge toys.

#### THE IDEAL MATERIAL

Paralleling this emergence of these fountains has been a resurgence of interest in granite as a building material. This has had the benefit of inclining suppliers to seek out and harvest stone in a huge range of colors and visual textures.

The floating balls and sockets must be

made of granite because it is less porous than other stones and much harder than most. Also, granite can be found in large enough pieces to create the balls, whereas other hard materials are often not so commonly quarried in solid pieces that can be machined into large spheres.

Because the perfection of the sphere is so critical, preventing wear is an important issue. If the spheres were to be made of marble or quartz, for example, they would be exponentially more expensive while being quite susceptible to damage from exposure, for instance, to acid rain. With granite, by contrast, both spheres and sockets maintain their critical smooth finish and perfect spherical shape indefinitely.

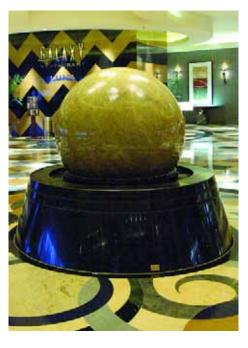
Once, however, we completed a float-

ing-ball project for the Golden Moon Casino in Philadelphia, Miss., in which the clients' natural desire was to have a sphere that was gold in color. We were able to find a stone in Italy with a color acceptable to the client, but when it was installed, this particular granite was porous enough that it started absorbing water and soon became unbalanced.

As it turns out, this gold-colored granite was much less durable than other forms. Although we were able to seal this ball and put it back in service, we learned a quick lesson in the fact that not all granites are created equal. That one project aside, however, the granites we've used have held up without the need to apply surface sealers of any sort.

We've also found ways to make each





The granite balls come in a wide range of colors and sizes, but it may be said that the real distinctiveness of each design comes from the structures that support the sockets. These housings range from the simple to the elaborate – and from those that make the moving balls completely accessible to those that make them more purely sculptural (and less interactive, as above).



WaterShapes  $\cdot$  January 2006







#### THE SUPPLY SIDE

Worldwide, there are only a small handful of companies that create the granite balls and sockets used in the fountains described in the accompanying text—and all of them are overseas. We obtain ours from Sorvikivi, a company based in Savitaipale, Finland, and work hand in hand with the company's U.S. representative, Lasse Sinisalo of Quarry Line in Naperville, III.

Using a form of ultrasound technology, Sorvikivi checks each piece for internal defects before it is machined. Once the machining is done, the ball is evaluated for balance because, obviously enough, granite is a natural material and weight is distributed inconsistently within the resulting spherical masses.

As a result, the balls are all balanced using lead inserts before they're shipped a process very similar to balancing an automobile tire.

-A.G.

While these watershapes tend to become the center of attention in most placements, the floating granite balls also can be used as shapely accents in broader landscapes – and as rewards to the curious who take a few extra steps to see what's going on.

project distinct. Where the spherical form of the ball is an essential standard element of these fountains, there's an opportunity for considerable variation in the treatment of the socket. In some situations, for example, we've obscured the socket in fieldstone frames. In others, the socket's exterior faces have been sculpted into various shapes.

The way the water flows out of the socket is also subject to variation. In some designs, for instance, the water flows into a channel right around the perimeter of the socket, while in others the water trickles over the edges of the socket and can be directed to shape a variety of subtle effects.

And of course, the way the water flows within the socket is critical to the ball's ability to move. In some cases, the balls are balanced so they spin freely in all directions. In others – particularly those in which the ball is etched with the continents to represent a globe - the ball can be weighted to create a heavy spot for the purpose of creating an "axis." (In such situations, the effect of a spinning "globe" is enhanced by using a single water inlet in the socket to spin the ball in a specific direction, with the angle of the inlet governing the ball's rotation. For random spinning, two inlets are typically used to provide a balanced flow.)

#### MAKING CONNECTIONS

Our role in providing these fountains typically involves working with the client to develop the design, communicating with the stone fabricator to procure the balls and sockets and packaging them with the necessary pump, filter and water-treatment equipment mounted in turnkey equipment vaults.

Because of the precise tolerances of the balls and their sockets, water quality is of absolute importance: Even something as small as a grain of sand can disrupt the



Not many people know what brand of electric motor is powering their pool or spa pump system. Nor do they really care.

But they would care if they knew the motor is the heart of the system. And that their fun in the sun would soon be done if the electric motor stopped working.

Exactly why it makes sense to let them know their system

is powered by A.O. Smith, one of the most dependable, energy-efficient motors in the pool & spa market.

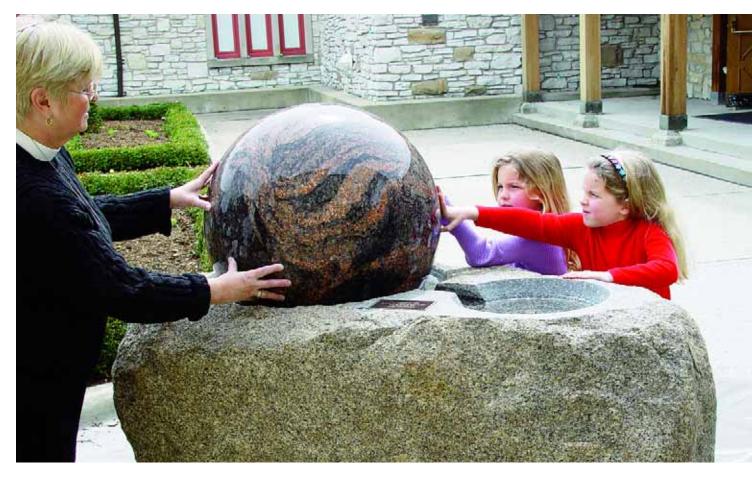
So if you're a distributor, pool builder or service technician, look for our little sticker on the pump. Then be sure to let customers know their system has a leg up on dependability because it's "Powered By A.O. Smith."

Stick With The Leader.

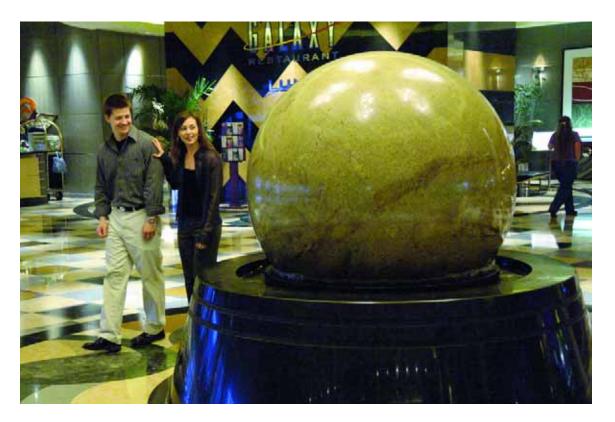




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For all their versatility as visual design elements, the floating balls are mostly about the effect they have on people. Young or old, they don't seem able to resist interacting with something so massive that nonetheless floats on a thin skin of water. It's a magical effect – one that is, without doubt, here to stay.













#### ONE GOOD SPIN

As described in the accompanying text, floating-granite-ball fountains can be used to great effect in a wide range of settings.

They are beautiful in their simplicity and quite dynamic as interactive watershapes, often serving as focal points and gathering spots in public places or commercial facilities. In some settings, including the Martin Luther King Jr. Memorial in Rocky Mount, N.C., they become powerfully symbolic and evocative.

If we had to choose, however, it's likely our favorite floating-ball project would be the one we completed for the St. Louis Children's Hospital's Olson Family Garden. Designed by Herb Shawl of EDAW, the renowned landscape architecture firm, the garden's fountain was set up to enable children of compromised physical condition to spin "the world" with the slightest touch of a hand.

It was one of the first projects of this nature we'd done, and it was incredibly exciting (and moving) to watch these children light up with delight, amazement and a sense of empowerment as they interacted with the ball.

-A.G.

hydroplaning effect, as can any build-up of algae. These systems typically contain less than 100 gallons of water, so while the systems may be small, they must be radically efficient.

The balls themselves are extremely heavy. Spheres with two-foot diameters (the smallest we provide) weigh in at 670 pounds, while eightfoot balls weigh a whopping 45,200 pounds. In all cases, they are delivered to their sockets in custom-made slings.

Despite the fact that these are relatively expensive fountains that can cost anywhere from \$20,000 to well beyond \$200,000, a growing number of clients have been willing to make the investment because they see these fountains as cost-efficient. The fact that they're made of stone and have a distinctly simple design certainly helps. The fountains will basically last forever, and in all the years we've been designing and installing them, we've yet to have one fail in any way.

We heard stories of improperly machined balls, inadequate subgrade support, balls broken in transit and other tales of woe, but we've found that by working with a reliable stone vendor and obtaining balls and sockets that have been properly machined and balanced, those sorts of issues have never arisen for us and as a result we take great pleasure with every additional floating-ball fountain we design and install.

Certainly, these fountains occupy a narrow niche, but we've always been impressed by the universality of their appeal: There's a near-addictive quality to playing with them and they invariably attract a great deal of attention.

It's tough to say whether they will continue to grow in popularity or fall out of favor someday. For now, however, it's clear that floating-granite-ball fountains have taken their place among the panoply of watershapes and will continue to delight and amaze generations of people of all ages.

As is the case in every aspect of the design of spaces intended for public use, the development of lighting systems for parks, plazas, resorts or historical sites requires increased attention to a series of creativity-thwarting factors including cost, durability and safety, says lighting-design guru Janet Lennox Moyer. Here, she offers insights into what it takes to go beyond those basic needs and truly bring public places to life once the sun goes down.

When we work in public settings, the basic demand on lighting designers is for straightforward fixture layouts capable of providing enduring effects and requiring minimal ongoing attention. That doesn't sound particularly exciting – and it's not, unless the lighting designer uses it as a baseline and reaches above and beyond.

Parks, plazas, resorts and historical sites (among many others) are all spaces that really should come alive at night, but their lighting designs often run counter to that vitality by being so utilitarian that they spark boredom rather than energy. It's easy to understand why this happens: Because such spaces play host to high levels of traffic and often multiple uses, they demand lighting treatments that stand up to abuse and exposure to the elements before anyone thinks much at all about aesthetics.

It's not like the situation in residences or many commercial settings, where owners see the property nightly and have high expectations about how it should look. In most cases, the users of public spaces are decidedly not the owners, but are visitors drawn to waterfeatures, activities and opportunities for recreation made available in these settings.

In a great many cases, the challenges of lighting for public use are further compounded by restric-





tive budgets and managers who are more concerned with costs than they are with maximizing potential lighting effects. In addition, public spaces are almost always larger than typical residential or commercial spaces, meaning there's a demand to provide more lighting with fewer fixtures, greater brightness and wider beam distributions.

Getting creative within those constraints is a significant, multi-level challenge that requires the designer to balance these often-conflicting demands.

#### PIRIC MAGE

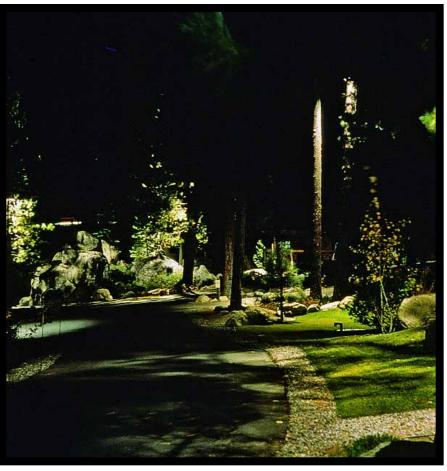
In residential projects, the style and scale of the property dramatically influence the development of lighting concepts. With their generally larger scale, by contrast, public projects drive the designer first of all to grasp the needs of the design from a significant safety/security standpoint before aesthetics can come into play.

What this means is that the design actually begins with what one perceives from outside the property under development: The designer must consider what someone will see from the street or other adjacent areas with respect to identifying the ways they can safely and securely approach structures, for example, or pathways, parking areas and/or masstransit facilities.

The lighting designer can actually increase the usage of some or all of these facilities by drawing people into the space – including those who can see a plaza's fountain or a park's interactive waterplay area from their vantage points in local buildings or through the windows of passing cars or buses. Indeed, lighting has been shown to have significant influence on the formation of memories, which I've always taken to mean that lighting can be used to extend, limit or direct the way people see and remember a public space.

Because of their scale, however, public spaces do not generally use as many fixtures per tree or general area as do private spaces. To think in those multi-fixture terms is simply prohibited by costs in almost all cases. Instead, we think on the level of setting single fixtures between two trees, for instance, so the canopies of both are illuminated.

This constrained deployment of fix-



hoto: Michael McKinle

In this composition, an area of importance – in this case the intersection of two roads – creates the need to have a brightness transition that gives those who walk or drive through a space important information about how to proceed. The muted foreground lighting provides visual continuity along the road, while the bright spot defines the intersection and creates a focus of visual (and navigational) interest with the big boulders.

tures requires the designer to evaluate which areas of a space have the most importance and to light some areas while leaving others in relative darkness. The designer's challenge thus becomes one of locating light throughout the site to provide a visual flow through the space while still retaining a sense of safety and creating aesthetic effects.

This is basically an issue of managing "brightness transitions" from one area to another by planning how light falls throughout the landscape, thus avoiding the feeling that some areas are inordinately dark. Many of the solutions are relatively simple: When lighting a path in an otherwise dark area, for example, you can use fixtures that have a distribution pattern

wide enough that their light washes the plantings beyond the path's edge.

This washing concept can be a key to developing a perception of safety: Light levels in the range of one to two footcandles will, when placed evenly along a path or through a planted area, provide the feeling of moving through a consistently lit space – far more comforting to the average person than moving through areas in which bright stretches are punctuated by spaces of nearly complete darkness.

Setting specific target levels for lighting is ultimately determined by the activities that will take place in the given space, moderated in all cases by ambientlight intrusion from surrounding areas and local code requirements.

#### FREEDOM OF MOTION

Reflectivity of hardscape surfaces can come into play as well. A concrete pathway, for example, may require only one footcandle to provide adequate lighting, while an asphalt surface will not reflect light as efficiently. The basic design of the latter might pass muster with inspectors, but it won't be enough to create a sense of safety among park or plaza visitors.

By "sense of safety," it is generally meant that lighting must ensure that visitors will feel secure from the sudden, unseen approach of a stranger and safe to move casually through the space. The best way to accomplish that goal while creating a visually pleasing environment is through a comprehensive plan that encompasses as much of the space as possible.

Basically, this means lighting more than just the paths. If the entire space cannot be lit, you can select specific elements in the setting that will, when illuminated, provide visitors with adequate information about the surrounding space by lighting potential obstacles such as curbs or fountain basins, for example, or defining the boundaries between solid ground and open bodies of water.

As for the paths themselves, they tend to be wider in public projects and accommodate more formal traffic patterns than do walkways found in residential projects. These traffic patterns mean that special attention should be paid to identifying entry and exit points by selecting fixtures that have reflective, decorative qualities to attract attention and serve as visual markers.

In some cases, simply using fixtures with higher wattages than surrounding fixtures will do the job – or perhaps it will take a physically larger fixture or even lit signage. Again, the appropriate solution comes from the nature of the project and the overall landscape-design concept for the entire property.

And of course single pedestrians or couples or families are not the only folks who are drawn to public spaces, which means that landscape lighting decisions must be driven by the full range of intended activities that will take place on the site.

This can mean lighting for organized activities such as theatrical or musical per-

formances, sports, dancing, dining, speeches, festivals, weddings or receptions. The size of the crowd (and thus the required lighting) will vary significantly depending on the activity. The designer's job is to understand potential uses and respond to the visual needs of each activity and each area individually.

You can't make generalizations: Large properties may include theaters or band

shells, for example, that will never be used at night and thus will never require performance lighting. By contrast, when such facility is intended for night use, the lighting system will need to accommodate entry and egress for the audience as well as theater lighting and control systems.

In such cases, any landscape-lighting designer would be well advised to call on the services of a specialist in theatrical

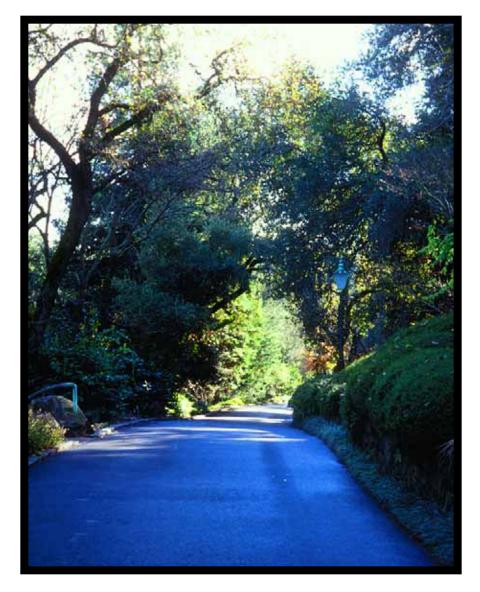


Lighting: Dan Dibble



ighting: Stefan Graf. Photo: Gary Quesada, Korab Ltd

The lighting in these areas comes from above and washes the spaces in light bright enough to help pedestrians perceive grade changes and surface differences once the sun goes down – the sort of safety consideration that is a key part of lighting programs in public plazas such as this one. But that's just one lighting function: The trees, watershapes and artworks are even more brightly lit than the decks to sustain their function as the primary attention-getters.





lighting. The same holds generally true if a lit space is designed for baseball, tennis, croquet, horseshoes or swimming: As with theatrical lighting, sports lighting typically works within specific guidelines available from a number of resources – but is often best left to the experts just the same.

#### **FOURMENT CHOICES**

As with all landscape lighting projects, equipment selection for public spaces occurs after design concepts have been plotted out by the designer and approved by local building authorities.

With large-scale public projects, much of the lighting will consist of high-intensity-discharge (HID) light sources whose long service lives and high-lumen outputs make them natural candidates for properties that cannot tolerate the same maintenance frequencies as residential spaces.

Selection of the appropriate light sources depends largely on the color of the light produced as well as its wattage and efficiency. Often, the color is selected to match the color of the light sources used in surrounding street lighting or with adjacent properties so the site blends seamlessly with its surroundings. In some cases, however, a shift in color may be needed to attract attention — as is the case in lighting flags or signage.

Many HID sources do not produce a full spectrum of color, so the appearance of people, plants, buildings and sculptures may be either greatly enhanced or diminished. As alternatives, using a bluish source (such as a mercury-vapor lamp) to accent a stand of pines at the rear of a space can be used to add depth to a scene, while the warmer hues of a high-pressure

Our daytime sense of a space is wide open and easily read by most everyone who follows a path or road such as this one. At night, however, the space becomes more mysterious and the lighting design must make pedestrians (and even drivers) feel safe and secure and sure of where they're going. In this case, downlighting offers a dappled, limit-defining edge with the groundcovers, while uplighting contributes a vertical component that fills out the composition and establishes longer views along the road.

Photo by Kenneth Rice, www.kenricephoto.com

# CONTROLLING INTEREST

Lighting systems for public spaces almost always come with automatic controls: No single person should ever have to be called upon to wait for the darkness and judge when to turn on the lights, nor should an operator be on call to dim certain lights to set a mood or accommodate the needs of a special event.

Spaces that have multiple and shifting activities (particularly parks) benefit from having their lighting equipment connected to photocells and time switches with 365-day on/off capabilities. This day-to-day adjustability will eliminate the need to change set-

tings from one season to another as activities change and the hours of sunset and sunrise move along with the seasons.

Establishing these control systems truly is a commonsense matter — if, that is, the designer has a clear picture of the activities and programs that will be taking place in the facility or in sections of the facility. Some parks, for example, will stay open longer during baseball season or to follow a summer theater-under-the-trees schedule. Whatever the need, there's generally a control system that can accommodate it or be adapted to do so.

- J.L.M.

sodium light source will shorten the appearance of long, narrow spaces. Similarly, adding color to lighting for a building (or a portion of a building) can emphasize an architectural detail or provide contrast to other elements in the landscape.

Incandescent sources are infrequently used in public or even commercial spaces because they typically have shorter working lives, lower lumen outputs and more confined distribution patterns than the

alternatives. Still, in locations close to buildings or in areas where the goal is to accent a particular plant, sculpture or structure, incandescent lighting may be the right choice because the distribution of light is more easily controlled than is true with HID sources. Moreover, the color is flattering to peoples' appearance.

As was mentioned at the outset, the fixtures you select for any sort of public space or lighting purpose must be able to withstand substantial abuse as well as the nature of the outdoor environment. Vandalism is a huge concern, but simple wear and tear will also be a major factor – not only because of corrosion or the effects of relatively heavy traffic, but also because landscape maintenance may require the use of large machines that can damage lighting equipment.

This means that designers should choose fixtures for these spaces that have strong



Day or night, the gate for this California winery captures the attention of anyone passing by or seeking it out. By day, however, the structure offers a clear barrier to entry into a vague space beyond – and the logo is often obliterated by bright background light. By night, the brightly illuminated gate is a celebration, while the lighting in the background invites visitors to enjoy the setting to its fullest.

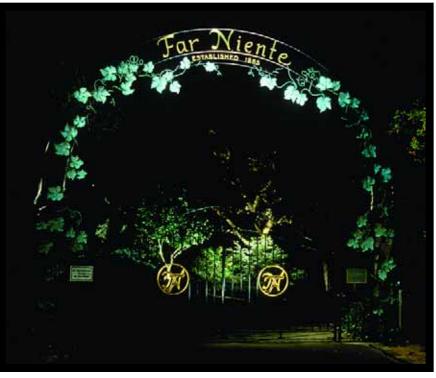
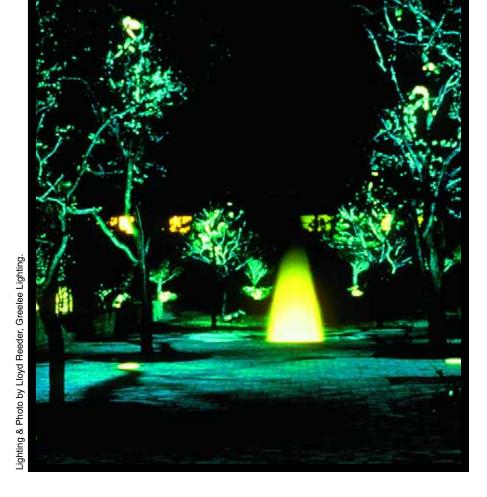


Photo by Kenneth Rice



In many cases, light of different colors can be used to lend texture to outdoor spaces. Here, the fountain is lit by incandescent sources in contrast to the soft mercuryvapor lamps lighting the walkways.

housings, secure locking mechanisms for aiming adjustments, impact-resistant lens materials and tamperproof screws or other accessories that prevent fixture disassembly. Lighting along pathways – including bollards, posts or pole-mounted sources – must even in many cases be designed to withstand collisions by vehicles.

Another design consideration (and limitation) is the fact that when equipment used for uplighting in public spaces uses 120-volt (or higher) power service, the fixtures must be permanently mounted on junction boxes rather than attached to moveable stakes. This is a major issue when it comes to locating fixtures for mature plants and requires coordination of fixture locations and heights.



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#### SPECIFIED CONSTRAINTS

The provision of precise plans and specifications is a matter of paramount importance with public projects because bidders will often package the lighting equipment and try to substitute for specified equipment with less-expensive alternatives that may or may not produce the desired outcome. As a result, designers should strive to educate clients about the required quality levels in a way that forestalls use of substitutes wrapped in false promises about savings.

The size and scale of public projects often present challenges as well as opportunities that smaller projects do not, including the possibility of working with artists in creating site-specific sculptures or fountains. This may mean a need to light massive waterfeatures or art pieces, and it may also mean designing custom fixtures. (Don't shy away from "custom" options: In my experience, the custom equipment will be produced in such large quantities for a big public project that the cost may well end up being comparable to off-the-shelf alternatives.)

You also need to be prepared for the fact that the design and construction of these projects can run on for years. The extensiveness of these stretches can make it easy to lose sight of the initial ideas that went into developing a lighting program. That in mind, ongoing and extensive documentation of the desired

results and of the systems required to achieve those results is a huge and necessary help.

And if changes are needed that will result in changes to the lighting program – as is all too often the case – you need to keep your eyes on the overall design goals, no matter how much the sand keeps shifting beneath your feet.

Yes, lighting public spaces requires you to balance a range of concerns that can be both complex and difficult. What keeps me going, personally, is the knowledge that a properly designed system, correctly installed and expertly adjusted, will offer lighting in a great space that will provide safe, secure enjoyment for countless people for years to come.

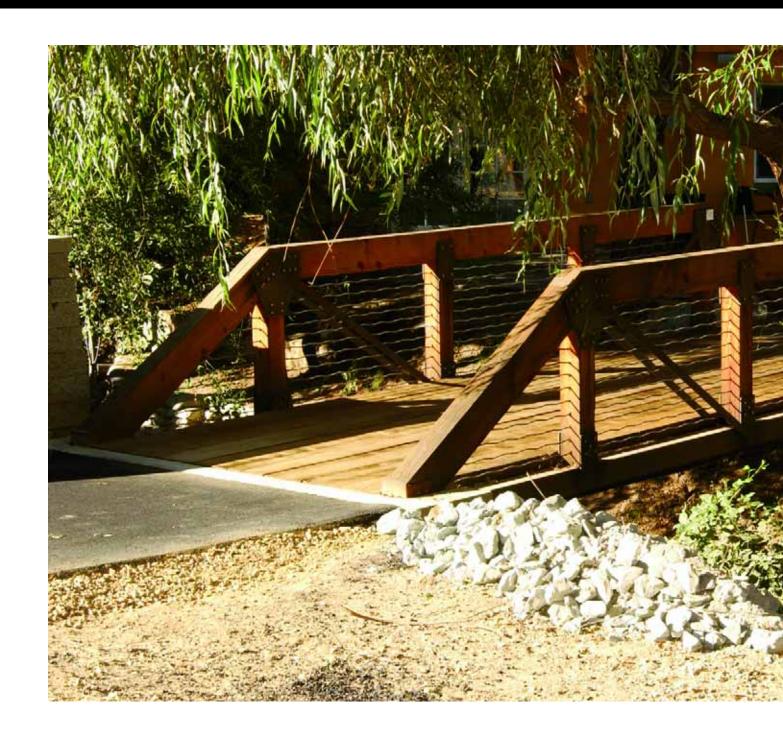
This is another clear case in which a space that has plenty of points of visual interest during daylight hours truly comes alive when illuminated by night. The light is offered in specific, functional colors, with incandescent lighting for the food counter at left and the wine counter in the middle at high enough levels so that guests can seen the food, the wine and each other clearly. Lights of other colors create bright, separate vignettes and special night-time spaces in the background (including a destination across the bridge) that tend to wash into one another in daylight.





Photo by Kenneth Rice

# S P A N



# SPACE A

# N I N G



#### BY DAN MOOSMAN

Bridges have been important to humanity for thousands of years. They've provided avenues of travel between disconnected spaces and have, as a result, been critical to commerce, settlement, warfare, travel and even poetry and literature. To this day, they are iconic in certain cities or regions (think Paris or New York), and there has always been a distinctly romantic air that accompanies their obvious utility.

My relationship with bridges in general (and with wooden bridges in particular) began during my childhood near Nebraska's Niobrara River. The big, load-bearing structures crafted to span that river in the late-19th and early-20th centuries absolutely fascinated me.

I'd spend hours climbing on those old structures and was amazed by the way they creaked as their tension and compression members supported truly formidable weights. At the same time, I came to value the presence of water in the landscape and the way bridges interacted with the streams, lakes and rivers rippling beneath them.

Not entirely adrift from those childhood interests, I've spent most of my adult life as a woodworker, mostly in the construction of custom homes. My life and career took a major turn, however, when I was given the chance to combine my professional skills with my early passion – an opportunity that led me to form Moosman Bridge eight years ago as a firm entirely dedicated to the design and construction of wooden bridges.

#### CONNECTIONS

From the start, my business has been about creating structures that are as beautiful as they are functional. I've long been captivated by the architecture of Frank Lloyd Wright and the de-

# N D T I M E





Some of the bridges we build are visually quite simple, as these examples from our Tioga line demonstrate. These bridges are completely utilitarian with little adornment – but lots of durability and longevity.

signers of the Arts & Crafts Movement and like to think that our bridges reflect their design sensibilities.

As it turns out, we've found clients who have been interested in exactly that approach and have shared our view that our wooden structures fit extremely well into verdant landscapes as functional and aesthetic elements.

Our wooden bridges are similar to steel bridges in many respects, except that we rely on wooden members that are bolted together instead of steel ones that are welded or riveted. In a properly engineered design, the combination of wood and bolts creates a relatively lightweight structure that supports many times its own weight.

As mentioned above, I had worked with wood for many years, building custom homes before getting involved with building bridges. As is true of other woodworkers, I derive tremendous satisfaction working with wood and from applying and expanding upon the great traditions of craftsmanship developed through the centuries. I love the way wood looks, smells and feels and admire its flexibility, durability and strength. I also like the fact that we are continuing to apply methods of construction that first emerged in the late-19th Century.

As part of my former general-construction business, I'd built many reinforced-concrete bridges on rural roadways in the Midwest. In many situations, ironically, I'd *remove* existing wooden bridges, but rather than discard the material (much of which was still structurally viable), I stored it and through the years accumulated a stock of valuable and irreplaceable raw material.

At first, however, I wasn't thinking about bridges. In fact, my first project with the recycled wood was a 7,500-square-foot custom home in Valentine, Neb. (This stock is long gone,



The angular bridges from our Niobrara line are a step up from the simplicity of the Tioga line, both physically and visually. As they weather and age, they blend beautifully into their land-scapes – strong statements clearly suited to their settings.





and all our bridges are now fabricated from new Douglas Fir.)

Not long after building that big home, I was playing golf at a local course and noticed that one of its bridges was in need of replacement. I offered my services at an extremely reasonable rate and ended up putting in a couple of bridges. Before long, a golf course designer/friend saw them and casually mentioned that he thought there was a tremendous niche that could be filled by someone making wooden bridges that would look at home in landscapes.

#### CAREFUL CONSTRUCTIONS

To my knowledge, ours is the only bridge-building company that uses natural Douglas Fir timbers to construct bridges on this scale. Others use composite materials and/or wood laminates, but we've made good mileage with those who believe in using the real thing. We also believe in the aesthetic value of these structures and make no bones about the fact that our bridges are not simply a means of crossing a body of water, but are also features that can greatly enhance their surroundings.

The accompanying photographs depict the four basic bridge styles with which we work. Each is engineered and built to match the specific spans and widths required by the individual project.

We manufacture each bridge in our shop and completely assemble every one of them before shipping to ensure that all components fit together perfectly. We then ship them to the site for installation by the clients' crews. (We provide technical support for the installation process and in many cases consult on the construction of any necessary abutments or footings.)

It's extremely important that the wood be dry before processing so that once the components are matched and assembled there will be limited shrinkage.

Once milled, we treat all of the wood with shingle oil for protection from dirt and moisture dur-





ing shipping. This oil eventually dissipates, leaving unfinished wood that naturally ages in the wind, sun and rain to gain a beautiful, silvery patina that adds to the structure's natural and aged appearance. (For bridges that will be installed in extremely wet or cold climates, however, we treat the wood with a chemical sealer to augment its longevity.)

Because wood is a natural material and conditions vary tremendously from place to place, how wooden bridges will fare once installed is unpredictable. We can't make guarantees, but under optimal conditions in which a bridge is properly installed and not subjected to physical abuse, it's reasonable to assume a service life well in excess of 50 years.

Eight craftspeople fabricate our bridges in the shop, and once they're finished we all make a point of walking across them, satisfied to know that we are just the first among tens of thousands of people who will cross them through the years.



All of our bridges are fully assembled at our facility before shipment to ensure that everything fits properly, including this large example from our Cherry County line (A). In some cases, we combine types of bridges (B) to create larger or specialized spans (as with this combination of Cherry County- and Grizzly-style bridges). We also manufacture custom bridges, such as this stout model for a road in Summit County, Utah (C).



#### IT'S IN THE TREES

All of our bridges are made entirely of coastal Douglas Fir pinned together with structural steel bolts.

This choice of wood species is a no-brainer:

- First, Douglas Fir is widely available from a number of sources in the Pacific Northwest and in sizes suited to large-scale construction.
- Descond, structural engineers have long hailed Douglas Fir as a premium material for the building of large structures, reserving their highest praise for material harvested near the coast instead of material grown inland. There's just something about the coastal material's consistency of grain and incredible load-bearing capacity.
- ▶ Third, coastal Douglas Fir is also remarkably durable: I've worked on large wooden towers for fire lookouts that have been in place for decades and the structural integrity is still on the mark, even with maximum exposure to the elements.

In the case of our bridges, this wood supports a minimum of 85 pounds per square foot across structures that might *in total* weigh no more than 70,000 pounds. The wood can also get wet and dry out and not suffer any structural degradation, and as it weathers, it only becomes more and more visually appealing.

The wood structures we build are excellent for handling structural compression, while steel is ideal for supporting tensional loads. Although concrete bridges are basically pre-stressed cables encased in concrete and wooden bridges distribute stresses across a truss, the structural principles involved are actually quite similar.

-D.M.







#### INTO THE LANDSCAPE

Our bridges aren't "custom" productions in that we generally stick to four basic forms, but the appearance of each of them can vary tremendously from the others based on the dimensions of the individual bridge and the way each fits into its setting.

As is true of many Craftsman-style structures, the aesthetic appeal comes through the way in which functional members — in this case the trusses, beams and rails — serve as parts of the composition. The distinct forms created by these members are visible from great distances and stand out against the land-scape in a way that suggests great age and colorful histories.

When we started, of course, I wasn't really sure where our

bridges would ultimately wind up, but it was always my thought that if we produced a quality product that was also beautiful to behold, the market would basically take care of how they would be used. Nearly a decade into the process, I believe that the prime settings into which our bridges are finding their ways is proof that I was correct.

Our clients seek design elements and structures that are beautiful and will enhance a beautiful landscape, not disrupt it. That has opened us to work not only for golf courses, but also for state and national parks, retirement communities, residential developments, resort properties and even rural highways – any setting in which a special, rustic touch has value.



Bridges in the Grizzly line clearly demonstrate that even though we offer only four standard bridge models, no two from any line are exactly alike out in the field – partly because they vary in length, but mainly because they absorb much of their visual energy from the different settings in which they're placed. And it only gets better as they age, with the steel taking on a rusty glow and the wood progressing to a warm, silvery hue.



**By David Tisherman** 

> As a designer and builder who has tackled more than his share of complex projects, David Tisherman knows a worthy challenge when he sees it. Such was the case with the sprawling pool, spa and waterfeatures pictured here: Bringing it all together called for a busy travel schedule punctuated by foul weather, supply and labor issues, a need for constant supervision and, perhaps most important, a profound and unusual level of patience.

# The Art of Finishing



art of watershaping so often is all about the art of finishing. Certainly, every stage of any project is important, but the final steps leading to completion are what make most designs come to life.

The project pictured here, which I've covered in five of my "Details" columns during the past couple years, has been an undertaking of extraordinary scale and mammoth complexity. As I mentioned frequently in those columns (November 2003, January and February 2004 and January and February 2005), the lion's share of the project management fell to my east coast partner and dear friend Kevin Fleming, who truly has endured a baptism of fire as he has marched his way through each successive step.

Time and again, Fleming and I have been reminded, painfully at times, that residential projects of this magnitude are highly unusual in rural south-central Pennsylvania, where most jobs involve off-the-shelf vinyl-liner pools or cookie-cutter concrete pools. Yes, custom watershapes have been built in the area, but it soon became apparent that the trades and sub-trades simply weren't accustomed to working at this level.

With persistence and patience, however, the job is now nearly complete with the exception of the landscaping and application of a handful of aesthetic touches that will come with better weather in the Spring of 2006.

When the grounds have been planted and dialed in visually, we'll finish up this

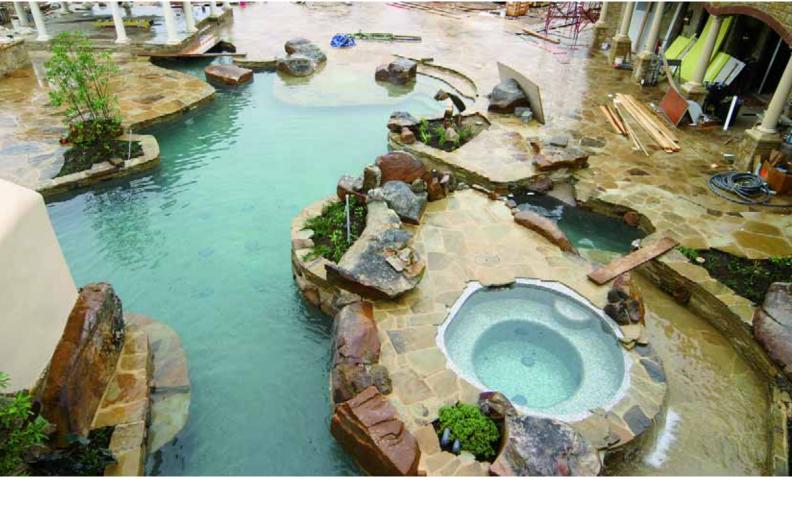
long suite of articles with a pictorial on the finished product. In the meantime, we'll take a look at the final stages of a job that stands as one the most satisfying I've ever tackled.

#### **Long Roads**

Let's reset the scene:

We knew going in that this project near York, Pa., would offer challenges with respect to both project management and execution. My partnership with Kevin Fleming in our company, Liquid Design of Cherry Hill, N.J., was relatively new when our work started, and in the early stages I traveled to the site every week or two.

For his part, Fleming was there constantly, grappling with the isolated con-









The awesome view from the deck overlooking the pool, spa and waterfall also reveals the beach entry, the band shell (which is to be finished in a color that helps it blend more easily into the background) and the gazebo. But I enjoy moving down for a deck-level view, which gives a clearer sense of how this grand but neatly encompassed entertainment space works and will be used once our work is done.

WaterShapes  $\cdot$  January 2006









ditions, innumerable supply problems and a shortage (with a few key exceptions) of skilled labor while he himself was learning about the importance of paying close attention to every detail from start to finish.

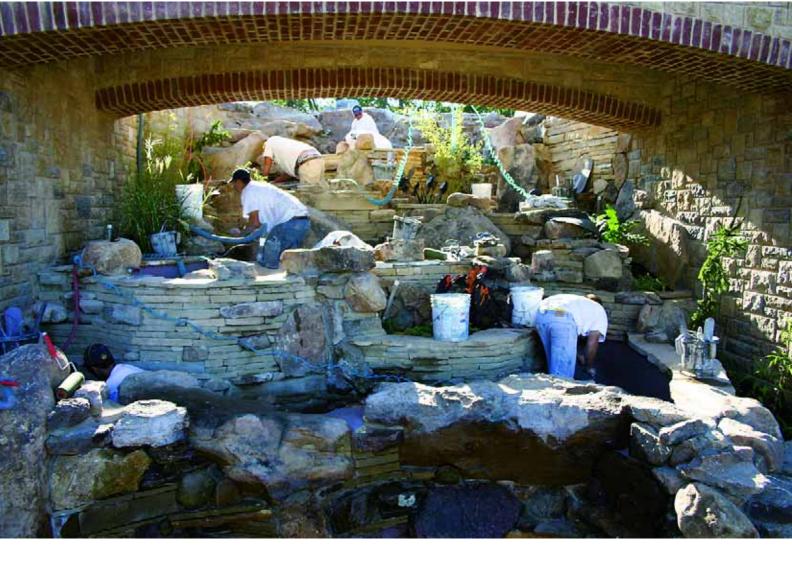
As it unfolded, the process proved to be arduous even when it came to things that should have been simple. Perhaps the biggest challenge we faced was the difficulty of finding local subcontractors skilled enough to do what was needed, which meant bringing in lots of people we knew from our projects in New Jersey and California.

This left us (mostly Fleming) to pay extremely close attention to each and every step and to manage things when corrections were required, as they often were in the early going. The deck drains, for example, are based on one of my favorite details in which we'd leave out the grout around a stone that would serve as a removable drain head. It's a straightforward process, but we couldn't find anyone who'd ever done anything like it before. This meant that I had to teach Kevin how to execute the detail so that he in turn could teach and supervise the sub-contractors.

We ran into the same sort of challenge when it came to setting the ledger stone and communicating exactly the way we wanted it to interface with the other materials. Before long,



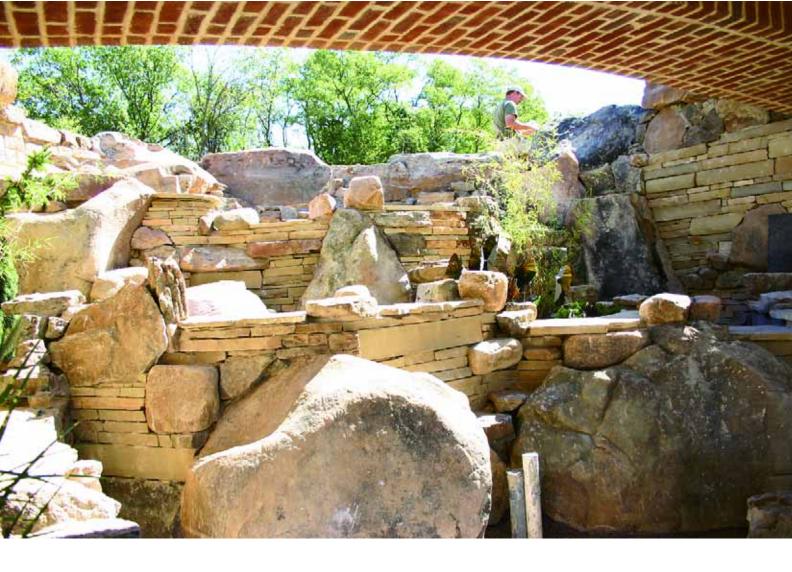
The most finely detailed part of the project is the waterfall structure that flows from the upper level and down under the bridge into the plaza. The composition took shape in a number of stages once the pool and spa island were well under way, rising between massive bridge supports to become a multi-tiered, boulder-strewn, heavily planted and, ultimately, completely natural accent within a distinctly architectural setting.





The finish work in the waterfall area was intense, as the span was to serve as a naturalistic link between a pond on the upper level and the entertainment-centered plaza below. There's incredible detail in the rockwork, boulders and ledger detailing — and all will be softened and accented by plants that will grow in the pockets we established from top to bottom of the structure.





our guiding principle of super-close supervision applied to such commonplace issues as making certain that decks were pitched toward the drains and that good installation practices were being applied in setting the equipment, building the forms and pressurizing the vast network of plumbing.

The glass tile finish in the spa was a particular challenge, and this isn't necessarily a regional thing: Truly competent tile setters are simply very hard to find. After a long local search, we came up empty in our hunt for someone to install the small glass tiles in the spa and inside the band shell adjacent to the pool. At significant expense, I flew in my west coast tile installer, Willie Vallenueva of J.W. Designs in Los Angeles.

My long-time friend – one of the finest craftsmen I've ever worked with and an incredible artist who understands what makes the difference between beauty and a visual disaster – Vallenueva knows all there is to know about various mounting techniques, floating the surface and working on radii and other tricky contours.

The tile we used came from Sicis of Ravenna, Italy – an iridescent silver glass in a custom, jog-jointed pattern. It looks amazing with the creams and grays of the Sweetwater stone with which we surrounded it. We also used flush-mounted eyeballs (impossible to find locally because apparently nobody ever uses them, so we shipped them in from California).

#### **Super-Sized**

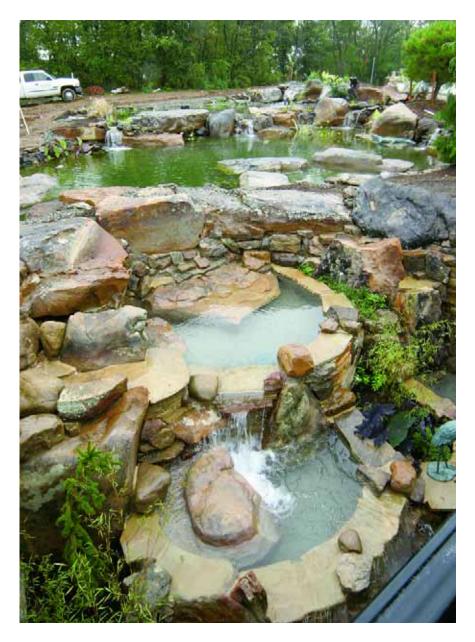
Beyond the basic management issues, we were challenged by the sheer scale of the project. The pool alone is enormous, at approximately 1,900 square feet, and then there's the stone-finished concrete bridge; the island spa; a 20-by-18-foot waterfall feature finished in a variety of ledger stone, boulders and plantings; a tile-lined band shell; and a huge gazebo.

The entire design was conceived to

stand out in a grand space, to make bold statements in a hugely opulent setting. This is a case, in other words, where subtlety was definitely *not* a goal: In this setting, draped in the shadow of a 40,000 square foot home, these watershapes could not be allowed to retire into the background.

Indeed, nothing about the project was understated. When we purchased stone, for example, we traveled the back roads of Arkansas to select literally hundreds of tons of material. What seemed at the time like supreme overkill was actually close to right on; indeed, only six of the hundreds of boulders we selected were not incorporated into our work on site.

The labor and attention to detail that went into the selection and placement of each boulder was enormous. We spent weeks in this painstaking work and had to maintain a constant vision of precisely what we were after at all times. We also struggled against the natural tendency in





From the bridge looking away from the plaza, you can see the pond up on the house level. It seems to flow toward the waterfall structure (although the systems are completely separate) and down into the pool. This bird's-eye view shows several of the planting pockets arrayed within the waterfall. When the greenery thrives, the whole system will seem more natural and visually accessible.

a repetitious process to cut the occasional corner. In one instance, we had a massive boulder fall out of its setting because the bottom of the boulder hadn't been properly pressure-washed before it was moved into place. This was *not* an experience that recurred.

Time and again, people we worked with (and others who came on site to see the work in progress) told us that they had never seen anything like what we were doing. The waterfall in particular was a source of curiosity and amazement: As it passes under a big concrete bridge, the water pauses in a variety of ponds interspersed within the structure.

The homeowners, workers, construction supervisors and everyone else saw us placing the multiple suction, return and bleed-off lines. They also watched as we set boulders to shape various weir details and cascades with a range of whitewater, serrated and sheet flows. There was one constant question: "Why are the pipes you're using so much bigger than anything we've ever seen used on a pool or spa?"

They also were interested in the planting pockets we located throughout the waterfall structure – each with drain, lighting and irrigation lines – to soften the look of stone and the water flows. It was all very complex, with countless pipes woven in and around the big boulders, and what we were doing seemed to rivet the attention of anyone who happened to walk by.

To be sure, you can only execute a project like this with strong manufacturer support. In this case, that level of commitment went well beyond the usual, particularly in the case of Chris MacDonald and Dave Kolstad of Pebble Technology (Scottsdale, Ariz.), who sent several technical staffers to oversee installation.



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#### **Starting the Finish**

When we were finally ready to fill the system with water and start it up, we ran into another odd hitch.

We called more than a dozen service companies in the area to find a start-up specialist. To their credit, they all showed up, but every single one of them took one look at the complex equipment set and its 13 pumps, four heaters and arrays of filters and control systems and told us they couldn't or wouldn't do the job.

One deeply confused technician told us he wouldn't work on any pool that used saltwater chlorine generation, advocating instead the use of trichlor tablets in a floater or the skimmer. When he saw that we'd also used an ozone system, he was absolutely bewildered. If this hadn't been a typical response, the individual episodes in the drama might have been amusing.

Finally, we found a company – Aqua Specialists of Mechanicsburg, Pa. – that was willing to take on the start-up. In fact, company owner John Sieck and service manager Ray Knepper, seemed to enjoy the challenge.

Before we activated the system, we were understandably curious about how everything was going to work. We had a good idea that it would all go smoothly, of course, because we'd taken every conceivable precaution and done all we could to ensure a positive result, but the fact remains that whenever you start up a system with so complex a set of components and watershape elements, there will likely be a glitch or two.

In this case, we had a single frozen pump. We called Steve Markowitz at Jandy Pool Products (Petaluma, Calif.), explained the situation to his assistant in Steve's absence and received a new pump two days later – just the attentive level of service we've come to expect from them. Once the replacement was installed, the system worked beautifully. And just as we hoped, the multi-level, multi-flow waterfall effects proved to be wonderfully exciting and complex.

At the time we fired up the system, there were some 70 or 80 people on site working to finish the home. When the water started flowing, everyone dropped what he or she was doing to watch the enormous watershape come to life. Many of them said they'd never seen anything like it in a residence before.

Best of all, in the weeks following the start up, we haven't heard a peep from anyone: It's all been working perfectly.









Returning to the plaza level and moving toward the waterfall, you pass by the gazebo, expansive decks and band shell, marking a progression from the architectural and artificial to the natural and free-form within a relatively compact space.

## Regional Blues ----

In the years since I started working extensively on the east coast, I've been disappointed by (and critical of) the mainstream watershaping industry there. Although I've run into wonderful exceptions, the basic mentality is that off the shelf is best (local outlets, for example, are still pushing the use of flex pipe for inground spas, a practice that hasn't been recommended for 20 years!) and that quality in materials and detailing is an unnecessary and even questionable goal.

I'd love it if this weren't so pervasively the case. On the project described in the accompanying text, my partner and I burned countless hours teaching, reteaching, doing and redoing details and processes to develop a cadre of talented electricians, plumbers and masons who finally recognized what we were after and were willing to consider the possibility of doing things in new and different ways.

As we move into other projects in the region, I'm hopeful that this process of learning and development will continue and that a more refined approach to the work will develop and become available to other designers and builders who need support at this level. The project seen in these pages is testimony to the fact that work at this level can be done: Perpetuating these approaches and transferring them to our projects and the work of others then becomes the overriding goal – the high tide that raises all boats.

I've always said that, in the watershaping industry as in life, you look for the mistakes and the successes soon follow. You don't pat yourself on the back; instead, you look for everything you can find that needs improvement, no matter how small and subtle or large and apparent. When you do finally solve all the problems, you'll create gorgeous work.

On this project, finding those solutions took a while, but everything came together at last.

-D.T.

The following information has been provided to WaterShapes by product suppliers. To find out how to contact these companies, look for the Product Information Card located on page 74.

#### STAINLESS STEEL POOLS AND SPAS

#### Circle 135 on Reader Service Card



RENOSYS offers the Summit Series of steel pools and spas. Made with fully welded 304 or 316 stainless steel, the vessels are available with any imaginable interior finish including the natural stainless steel finish, tile or a PVC lining. Ideal for use as in-

ground public pools, therapy pools or hydrotherapy spas, all models are fully engineered and tested to ensure leak-free performance. **RenoSys**, Indianapolis, IN.

#### **CURVED WATERFALL SPILLWAYS**

#### **Circle 136 on Reader Service Card**

EASYPRO POND PRODUCTS now offers curved waterfall spillways. Designed for maximum design flexibility, the modular units feature a 15-degree angle on the end of each module to create an inwardly curving waterfall or a 15-degree back angle to provide an outwardly angled waterfall. The two configurations can also be combined to form S-shaped spillways and other contours. **EasyPro Pond Products**, Grant, MI.



#### **DRIPLINE SOAKERS**

#### Circle 137 on Reader Service Card



TORO offers the Soakerline family of dripline irrigation products. The 1/4-inch hose is flexible and sturdy and features built-in emitters (at either 6- or 12-inch intervals) for ease of installation. Packaged in 100- and 3,000-foot coils in either blue or brown and available with a wide range of tees, elbows, couplings and

other accessories, the soakers emit about 1/2 gallon per hour per emitter. **Toro**, El Cajon, CA.

#### **COMMUNICATING TIMERS**

#### Circle 138 on Reader Service Card

ALLEN CONCEPTS has added an X-10 communications option to its line of TightWatt pool timers. This feature lets a pool pump be controlled by any number of devices, including wireless remotes, personal computers or even telephones. The upgrade to the timers, which are designed to run pool pumps only as much as needed, allows for a high level of convenience at reasonable cost. **Allen Concepts**, Chandler, AZ.



Continued on page 72







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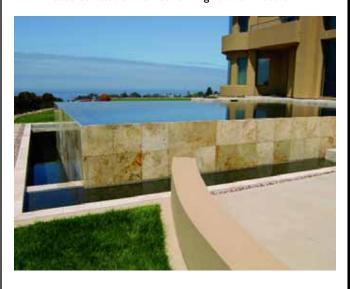
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#### CHLORINE CONTROLLER

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ACU-TROL now offers AKColor, the first system designed for treatment of combined chloramines. The device continuously measures the level of chloramines and shocks the water as needed – ideal for indoor commercial pools to reduce the odors and discomfort

produced by chloramines. It works with commonly available chlorine or non-chlorine substitutes and allows for off-site control. **Acu-Trol**, Auburn, CA.

#### **BACKYARD PLAY EQUIPMENT**

#### Circle 140 on Reader Service Card

PERFORMANCE DESIGN has introduced LifePlay, a line of outdoor play equipment designed to meet commercial standards – but specifically configured for the residential market. The rugged, easy-to-install system includes a free-standing fort, swing and monkey-bar unit



accompanied by a picnic table, sand box, climbing wall, wave slide, ladder and trapeze-ring combination. **Performance Design**, Clearfield, UT.

#### OZONE/SALT CHLORINATOR

#### Circle 141 on Reader Service Card



PROZONE has introduced the CSS 20 ozone/salt chlorination system. Designed to provide complete sanitizing for pools and spas up to 40,000 gallons, the easy-to-install unit includes a cycle timer, a chlorine-output controller, a self-cleaning electrode and corona-advanced hybrid ozonation

in a complementary combination of sanitizing approaches that offers maintenance-free efficiency. **Prozone**, Huntsville, AL.

#### CORE DRILLING RIG

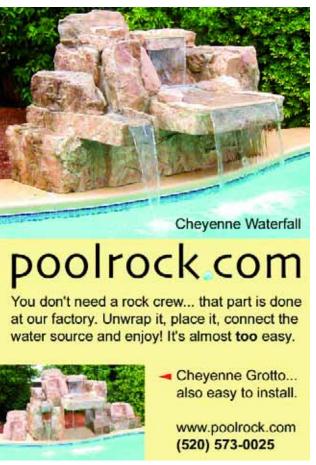
#### Circle 142 on Reader Service Card

MULTIQUIP offers the CDM-1H hand-held core drill for the quick and accurate on-site drilling of concrete, brick, masonry block and more. The unit excels in wet-drilling applications up to 3 inches in diameter or can be used with dry-drilling bits up to 5 inches in diameter. It weighs just 9 pounds and comes with an adjustable shoulder rest, a three-position handgrip and internal water feeder. **Multiquip**, Carson, CA.









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#### SAFETY COLORING BOOK

#### Circle 143 on Reader Service Card



#### ASSOCIATION OF POOL & SPA PROFESSION-

ALS has published the Splash Zone USA Coloring Book to teach kids about water safety. Designed as a fun way to reinforce basic rules that keep children safe in and around pools and hot tubs, the book also includes games and puzzles with water-safety themes, information on the use of sunscreen and safe toy use. **Association of Pool** 

& Spa Professionals, Alexandria, VA.

#### ACRYLIC PANELS

#### Circle 144 on Reader Service Card

REYNOLDS POLYMER TECHNOLOGY offers highperformance acrylic glass for transparent, waterretaining walls. Flat and curved panels are available, as are tunnels, cylinders, stand-alone tanks and more. The material offers outstanding optical clarity, great UV filtering, high impact-resistance and superior weatherability and is available in almost any shape, size or color. **Reynolds Polymer Technology**, Grand Junction, CO.



#### WATER-TESTING GUIDE

#### Circle 145 on Reader Service Card



TAYLOR TECHNOLOGIES has published the 2006 edition of its *Test Kit Selection Guide*. Set up as true-crime thriller called "Pool Detective Magazine," the guide profiles the company's full line of products and is designed to take the guesswork out of water-treatment decisions – including those related to hot-tub maintenance, salt water chlorine

generators, metal staining and much more. **Taylor Technologies**, Sparks, MD.

#### COBBLESTONE GLASS TILE

#### Circle 146 on Reader Service Card

HAKATAI has introduced the Cobblestone glass tile line. Designed to resemble wet and dry river rocks on the bottom of a clear streambed, the mesh-back-mounted tiles are handmade by dropping molten glass onto a flat metal surface and firing a white or variegated gray color onto the tiles' undersides. Both colors come with a tumbled or polished texture, and sheets fit seamlessly together like puzzle pieces. Hakatai, Ashland, OR.



Continued on page 76

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	Restoration Specialists (pg. 81) (877) 270-4872	www.restore-usa.com
72	Rock & Water Creations (pg. 17) (866) 466-7625	www.rock-n-water.com
35	Spray Force Mfg. (pg. 31) (800) 824-8490	www.sprayforce.com
42	Standard Bronze (pg. 79) (201) 339-1351	www.standardbronzeco.com
52	Stegmeier (pg. 16) (800) 382-5430	www.stegmeier.com
126	StoneAge Lighting Creations (pg. 76) (877) 277-5177	www.stoneagelight.com
104	Subconn (pg. 14) (888) 245-1104	www.subconn.com
65	United Elchem (pg. 78) (888) 671-7886	www.elchem.com
	Wall Whale-GABco Products (pg. 81) (866) 888-8778	www.wallwhale.com
56	Waterway Plastics (pg. 2) (805) 981-0262	www.waterwayplastics.com
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#### HYDRAULIC EXCAVATORS

#### Circle 147 on Reader Service Card



CATERPILLAR has introduced the 301.6C and the 301.8C hydraulic excavators - the two smallest excavators in the company's line. Designed to offer 22 percent more bucket-digging force and more than 10 percent more stickdigging force than previous models, the units get more work done faster under tough condi-

tions because of increased hydraulic flow, pressure and engine power. Caterpillar, Peoria, IL.

#### LIGHTING CATALOG

#### Circle 148 on Reader Service Card

FOCUS INDUSTRIES has published a catalog for outdoor lighting professionals. The booklet is designed to provide a comprehensive and effective guide to selecting among the company's brass and powder-coated lighting fixtures, accessories, transformers and enhancements. It also details the company's product-customization capabilities for even the most specialized projects. Focus Industries, Lake Forest, CA.



#### Marble Pavers

#### Circle 149 on Reader Service Card



OLYMPIC STONE & MARBLE offers marble pavers in five colors and a variety of dimensions - from 4 by 8 inches up to 24 by 24 inches. The imported material is ideal for exterior sand-set applications and is available with several finishes, includ-

ing polished, brushed and tumbled. In addition to pavers, the line also includes matching bullnose pieces for pool copings and steps. Olympic Stone & Marble, Hollywood, FL.

#### POOL/SPA CONTROL SYSTEM

#### Circle 150 on Reader Service Card

PENTAIR WATER POOL & SPA has updated its EasyTouch control system. The device allows for automatic scheduling and control of pool/spa



equipment and backvard accessories and now works with shared-filter systems. It also includes (among other features) the option of adding an indoor control panel, a four-function spa-side remote and/or a wireless handheld remote. Pentair Water Pool & Spa, Sanford, NC.

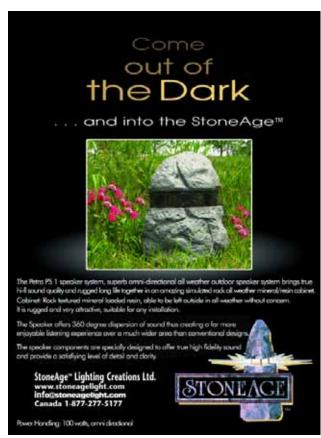
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#### SAFETY DRAIN

#### Circle 151 on Reader Service Card



PARAMOUNT POOL & SPA SYSTEMS introduces the SDX High Flow Safety Drain. Designed to exceed current entrapment-avoidance requirements, the unit comes in 8 colors to complement finishes, can be used with any residential pump rated up to 3 hp and can even be used with more than one

pump if the combined flow does not exceed the drain's rated flow. **Paramount Pool & Spa Systems**, Tempe, AZ.

#### **SOLAR-POWERED POND PRODUCTS**

#### Circle 152 on Reader Service Card

OASE has introduced a line of solar-powered pond products to overcome the challenge of finding power service in remote locations. These include the Nautilus solar pumps (available in two versions); the Solarsafe collecting



system (with storage and control units); Atlantis solar pumps for watercourses; and Lunaqua, a new-generation, solar-powered LED spotlight for use in and out of the water. **OASE**, Corona, CA.

#### POOL/SPA MOTORS

#### Circle 153 on Reader Service Card



EMERSON MOTOR TECHNOLOGIES has published a new, 20-page catalog on its pool and spa pump motors. The booklet contains complete information on the company's square-flange and C-flange pool motors (including new energy-efficient models); pool cleaner booster pumps; three-phase pool motors; through-bolt pool and spa motors; and close-coupled motors. **Emerson** 

Motor Technologies, St. Louis, MO.

#### FLOW STRAIGHTENERS

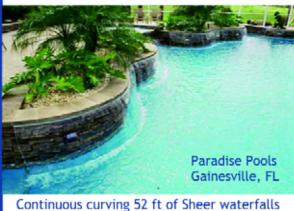
#### Circle 154 on Reader Service Card

PEM FOUNTAINS offers a series of flow straighteners that can be fitted into the inflows of samesized jets affected by turbulence in the supply pipe. Designed to improve spray effects — especially at low spray heights — the compact brass pipe inserts are fitted with ABS molded-plastic nozzles bolted in place with stainless steel and come in



sizes ranging from 1/2 to 1-1/2 inches. **PEM Fountains**, Richmond Hill, Ontario, Canada. Continued on page 78





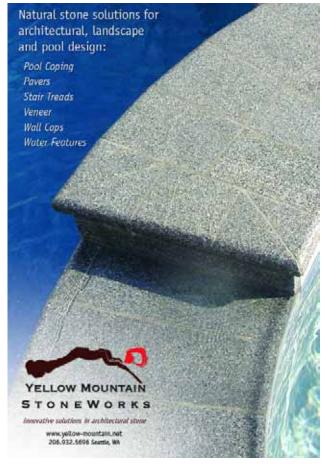
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## OF INTEREST

#### GLASS TILE

#### Circle 155 on Reader Service Card



LIGHTSTREAMS offers handmade glass tile for use on the waterline, as accents and as field tiles in pools, spas and other watershapes. The product comes in a range of standard sizes – 2 by 2, 4 by 4, 2 by 8, 1 by 6 and 8 by 8 inches – for design variety. Some are solid colors, but others have textured, iridescent coloring that shifts

strongly depending upon sunlight and viewing angles. Lightstreams, Mountain View. CA.

#### STEER LOADER

#### Circle 156 on Reader Service Card

BOBCAT offers the A300 all-wheel steer loader. Designed to save time and labor in transporting boulders and stone slabs without damaging lawns, the loader has a lifting capacity of 3,000 pounds, a lift height of more than 126



inches and a reach of 34 inches. It also features an enclosed, heated/air-conditioned cab and provides a choice of turf-friendly all-wheel steering or space-saving skid-steering. **Bobcat**, West Fargo, ND.

#### SLATE PRODUCTS

#### Circle 157 on Reader Service Card



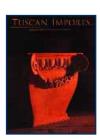
SCOTIA SLATE quarries slate in colors that range from blue-gray to various shades of green. Durable, frost-proof and slip-resistant, the material is supplied in random shapes as well as in cut forms – pavers, pool coping, stair treads and gauged flagstone flooring. Ideal for patios, walkways, pool decks and a range of architectural applications. the prod-

uct is also virtually maintenance-free. **Scotia Slate**, Elmsdale, Nova Scotia, Canada.

#### Italian Terra Cotta

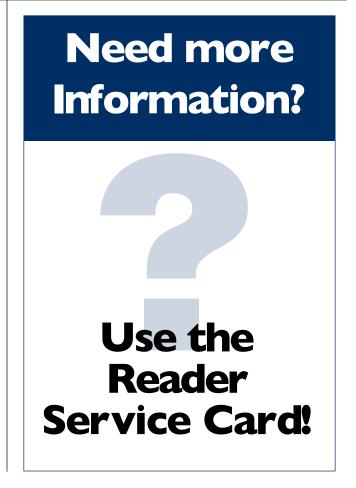
#### Circle 158 on Reader Service Card

TUSCAN IMPORTS has published literature on its line of imported terra cotta products. The 28-page, full-color booklet discusses the beauty and all-climate durability of the clay material and then displays bowls, vases, amphorae, planters, statuary, pedestals, fountains and more – some elaborate, others with classic, understated elegance and several available with antiqued finishes. **Tuscan Imports**, Florence, SC.









#### CHLORINE GENERATOR

#### Circle 159 on Reader Service Card



GOLDLINE CONTROLS offers the Aqua Rite electronic chlorine generator. The system generates chlorine from common table salt in pools holding up to 40,000 gallons. The chlorination cell installs easily into the return side of the circulation system's plumbing and features a slightly offset flow path

that increases turbulence to ensure peak performance without restricting flow. **Goldline Controls**, North Kingstown, RI.

#### STONE BRICKS

#### Circle 160 on Reader Service Card

MSI INTERNATIONAL has introduced Nature's Bricks for exterior applications. The natural products are available in 13 color patterns ranging from pale greens and dark grays to blacks and vivid reds. All pieces come in standard 4-by-8-inch form and are just 5/8 inches thick. They are also color-fast, frost-resistant and re-



quire little maintenance – ideal for driveways, patios and pool decks. **MSI International**, Orange, CA.

#### **OUTDOOR AMENITIES**

#### Circle 161 on Reader Service Card



SITECRAFT offers a full line of outdoor amenities in wood, metal and stone in various colors. Specializing in wooden benches and planters with sweeping, curvilinear forms, the company provides a range of standard products that take on a wide variety of configurations, from crescents to

circles or sweeps. It also makes complementary lines of stone planters and metal benches. **Sitecraft**, Long Island City, NY.

#### SAFETY SURFACE

#### Circle 162 on Reader Service Card

PATHWAY SURFACES offers Saf Dek, a poured-in-place safety surface for play-grounds, waterparks, walkways and pool decks. Seamless, porous, slip-resistant and durable, the ADA-compliant, environmentally friendly material is made mostly from re-



cycled tire rubber held together by a polyurethane binder and comes in more than a dozen colors from earth tones to bright primaries. **Pathway Surfaces**, Baton Rouge, LA. Continued on page 81



www.standardbronzeco.com

Circle 42 on Postage Free Card



Circle 118 on Postage Free Card

# **MISSING ANY?**

<b>☐</b> February 1999 (Vo	<u>ol. 1, No. 1)</u>	<b>October 2001</b> (Vol. 3, No. 8)	□ November 200	3 (Vol. 5, No. 11)
	in difficult soils; White on	<b>Tisherman</b> on hilltop views; <b>Hagen</b> on natural		stone; Shaw on roles of con-
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☐ June 1999 (Vol. 1,		Nov/December 2001 (Vol. 3, No. 9)	☐ December 200	
	ecks; <b>Parmelee &amp; Schick</b>	<b>Straub</b> on Kansas City's fountains; <b>McCloskey</b> on		topic indexes; five-year index
	derson on water sounds.	the Getty Center; <b>Tisherman</b> on Fallingwater.	for all columns, 199	
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nity waterparks; Gutai o		on the Raleigh Hotel pool; <b>Roth</b> on Katsura Rikyu.		ty for natural watershapes.
□ <u>October 1999 (Vol</u>		<b>February 2002</b> (Vol. 4, No. 2)	☐ February 2004	
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	nerman on site geometry.	edge details; <b>Affleck</b> on scupture and water.		<b>er</b> on grand-scale watershapes
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☐ March 2000 (Vol. :		□ <u>September 2002 (Vol. 4, No. 8)</u>	☐ June 2004 (Vol	
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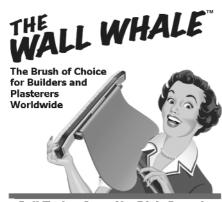
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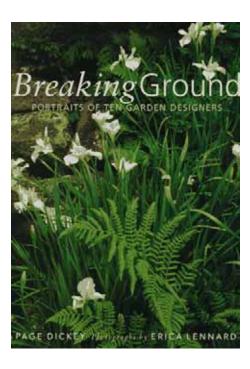
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By Mike Farley

# **Grand Prizes**



t's no exaggeration to say that landscape design, whether residential or commercial, is in something of a rut these days. Nor is it saying anything new. Even in settings separated by great distance – a planned community in Plano, Texas, for example, compared to one in Toms River, N.J. – you'll find almost the exact same hardscape and planting treatments. There's just an incredible homogeneity in design these days.

If you find yourself depressed by that predictability (or are stuck in those creative doldrums yourself), I strongly recommend picking up a copy of *Breaking Ground: Portraits of Ten Garden Designers* (Artisan, a division of Workman Publishing, 1997). Written by Page Dickey, this heavily illustrated 208-page text treats us to insightful and intimate looks at a set of extraordinarily diverse designers, each with vastly different personal backgrounds and each working over a range of settings.

Although the book is straightforward in structure – a series of designer profiles covering a handful of key projects along with coverage of the careers and philosophies of each – you'll find some important perspectives and inspiring content. One of the key themes carried through all entries is the notion that landscape and garden design should exist within and be inspired by the setting.

In one case, designer Patrick Chassé works extensively in Maine and focuses on mirroring the rugged rockwork that lends so much drama to his region's geology. In another, we're treated to the works of Arizona artist Steve Martino, who draws his inspiration directly from his arid surroundings in the Sonoran Desert. In yet another example, we see the compact works of Madison Cox on rooftops in New York City.

Certainly, this notion of taking cues from settings is important (and well-worn), but these artists follow that train of thought in unique and compelling ways. I was also fascinated to read about their philosophies, backgrounds and those they cite as influences on their careers. Some came from academic backgrounds and are licensed landscape architects, but others moved into garden design based on their experiences in related fields, including the visual arts, interior design and architecture.

The combination of geographic diversity of the settings with the spectrum of backgrounds carries this compact text beyond the ordinary—much to the credit of the writer who sought out this particular set of designers for inclusion in the book.

We encounter on the one hand the natural and formal influences of landscape architecture professor Ron Lutsko, and on the other the Asian influences applied by Chassé in designing his rockwork. There's also the Middle-Eastern spark to Cox's rooftop gardens contrasted with the Legorreta/Barragan-influenced naturalism of Martino's desert gardens.

These contrasts and themes are supported by truly beautiful, well-photographed projects. Taken simply as an idea book, this is an incredibly useful text. But when considered in light of the diversity of settings and design approaches, it becomes something of a manifesto that attacks aesthetic monotony while singing the praises of a setting-driven individuality.