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WaterShapes

Design • Engineering • Construction

Volume 7
Number 7
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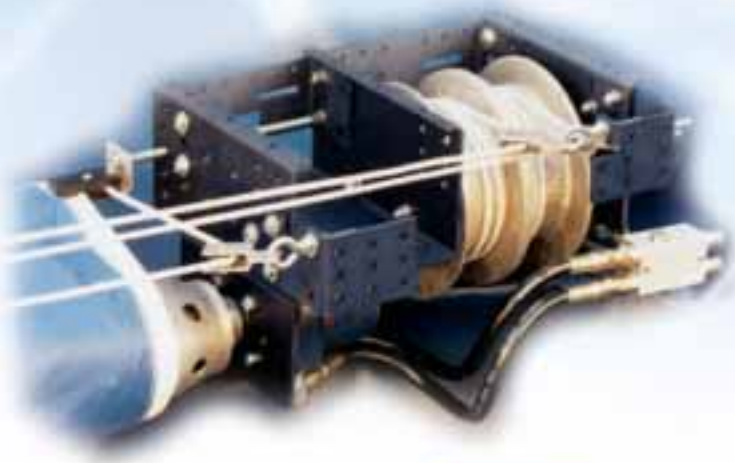

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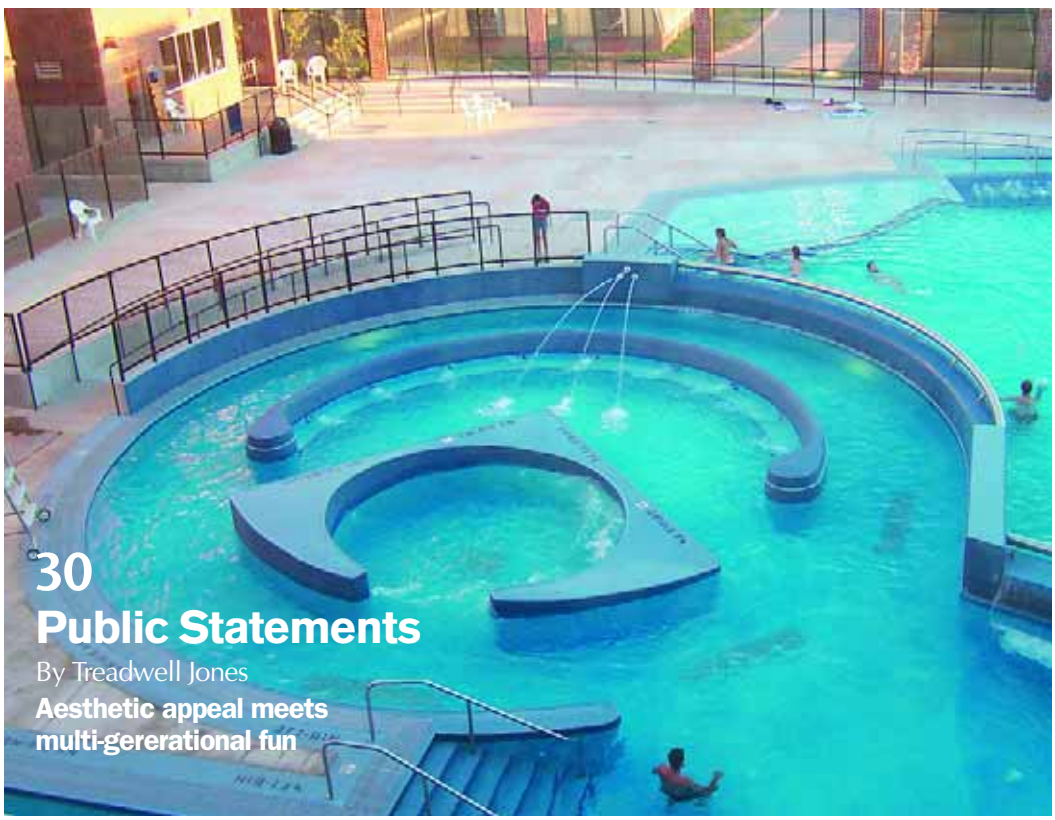

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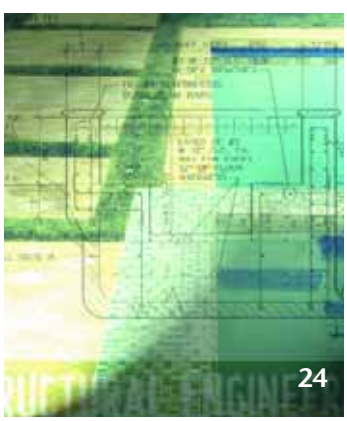

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On the cover:
Photo by Gregory Case, San Jose, Calif.

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By Eric Herman

Heritage

It's been a subject of discussion among my parents and siblings that bodies of water – swimming pools in particular – have been an unusually important part of the lives of my own immediate family. I've spent the greater part of my career writing about all things aquatic while my son, Brett, has spent almost as much time literally and figuratively immersed in aquatic recreation and athletics.

His resume as a waterman is truly impressive. He could swim at age three, played competitive water polo and swam for eight years for a local aquatics club and kept at it right through high school. He has taught swimming, worked as lifeguard and in general shown a willingness to jump into any swimming pool, ocean, lake or river within striking distance.

Now in college, Brett recently completed lifeguard training for a local waterpark during which he was asked to write an answer to this sneakily profound question: *What would your life have been like without swimming?* Knowing that his old man shares much of the same fascination with water recreation, he e-mailed me his response:

"I can honestly say that without the presence of swimming pools, my life would have been completely different. Even though most people look at me and see an athlete, the truth is that swimming is the only form of exercise I enjoy at all. Even though it's hard work, it has never really felt like it.

"If it weren't for swimming and water polo, I might have spent all my leisure time playing video games, and high school would have been a truly mediocre experience. Instead, I spent thousands of hours in vigorous exercise with a group of like-minded kids, and many of them are now my closest friends. Swimming has given me health, personal recognition, discipline, friendship and, now, a really cool way to earn a good hourly wage.

"Swimming has been such a huge element in my life, I can't imagine having grown up without it. And having worked as a lifeguard, I can see how older people use the water to stay in shape and recover from physical problems – and I guess this has shown me that much of my future will be spent in the water as well."

Like most parents of great kids, I beamed with parental pride when I read his essay. Beyond the case of burst buttons, however, I have to add that watching Brett and his peers live the "life aquatic" has consistently and considerably bolstered my belief that watershaping is much more than a form of the architectural and construction arts. In fact, it offers all of us access to a dynamic way of life.

I can't help wondering how many thousands of kids are positively influenced each and every day by the products our industry provides. Each and every body of water installed in any residence or public space carries this same potential to inspire, encourage and energize.

These thoughts all cascaded through my mind as I put finishing touches on the articles in this issue, especially the one on the ongoing evolution of modern public watershapes by Treadwell Jones (page 30) – but the others as well: We simply never know how lives may be altered for the good because kids have places to explore their passion for water.

To paraphrase my son, it's a really cool way to earn a buck!

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July's Writers

Treadwell Jones is aquatics manager for Larkin Aquatics, a design and engineering firm based in Kansas City that focuses on competitive-swimming facilities, public and institutional aquatic centers and decorative waterfeatures. Jones earned his degree in architecture from the University of Kansas in 1991 and started his career by designing large aquatic and waterpark projects throughout Europe for Thalessa B.V. of the Netherlands. Returning to the United States, he designed multi-use aquatic centers for Counsilman/Hunsaker of St. Louis before moving over in February 2004 to join Larkin Aquatics as a designer and project manager for aquatic facilities commissioned by municipalities and educational institutions across the country.

David Tisherman is the principal in two design/construction firms: David Tisherman's Visuals in Manhattan Beach, Calif., and Liquid Assets 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 License Board. Tisherman is a co-founder of and principal in-

structor for the Genesis 3 Design Group.

Jeff Freeman is director of technical services and commercial sales for Balboa Instruments of Tustin, Calif., and is also founder of Fluid Logic, an independent hydraulics-consulting firm in Upland, Calif., that specializes in complex aquatic systems. He entered the watershaping industry more than 20 years ago, working for a wholesale distribution firm. He later established his own service and repair company, then returned to the distribution business as a product representative working with swimming pool and spa builders. He has extensive experience designing and troubleshooting hydraulic systems and has taught the subject at the California Polytechnical University in Pomona, Calif.

Michelle Van de Voorde is an award-winning landscape architect and principal of Elemental Design Group in Boulder Creek, Calif. She earned a bachelors degree in Art from California State University at Fullerton in 1989. In the 16 years since, she has built a reputation in the Santa Cruz area for highly artistic landscape designs for residential clients – especially those who seek tranquil and spiritually invigorating exterior spaces. She has studied *feng shui* extensively and also has traveled widely in Europe to explore and draw inspiration from classic exterior designs. In 1992, Van de Voorde was appointed to the board of directors of the Arboretum at the University of California at Santa Cruz. She can be reached through her web site, *www.mvdv.com*.

By Brian Van Bower

Too Busy to Care?

There's one theme I've heard repeated over and over in seminars and magazines: Word of mouth is absolutely the best form of advertising.

Almost everyone I've talked to recently is busier than ever these days. And it's across the boards, from landscape architects and designers to pool and spa builders and subcontractors of every type: Everyone is swamped, and this year in particular they all seem to be having trouble just keeping up.

The odd thing is that nobody I've spoken with has an entirely clear idea why this year is so busy. At best, the economy is mixed: oil and gas prices are through the roof, the stock market has been extremely inconsistent and consumer confidence has been shaky. Yet watershaping projects just seem to keep on rolling, no matter the news.

One undeniable factor seems to be driving this demand – that is, the continued growth of real-estate values across the country. Available equity and low interest rates on home-equity loans have put a whole range of home-improvement projects on homeowners' agendas.

Still, if there's one thing the economy has demonstrated time and again, it's that these things are cyclical. There is no question that interest rates will rise someday and that the real-property market will cool. Personally, I'm worried that many consumers are overextending themselves. It's hard to say how much a cooling trend might cut into our watershaping work, but it's safe to assume there will be times ahead when we won't be so flush with activity.

the perils of prosperity

Certainly, economic prediction and market analysis is the work of people who know a lot more than I do about such things. For now, it's satisfying to note that there are many opportunities for us in the watershaping trades. We're all engaged in business to prosper, after all, and the ready availability of clients looking for our products and services can only be a positive thing.

But there *is* a downside to this wave of activity. It's clear to me that the watershaping trades in the United States are currently underpopulated relative to demand, and this shortfall will inevitably create problems. In such environments, people rush so much that they will be tempted to take shortcuts or even cut corners for the sake of getting the job done. In other words, times like these raise concerns about quality – and in my book, no diminution of quality is to anyone's benefit.

The first place quality takes a hit is at the front end of the process – in the servicing of sales leads and the acquisition of new business. For the past several weeks, I've heard from a large number of potential clients who have told me that not only are they unable to get anyone to look at their projects, but they can't even get watershapers to return their calls.

Just this morning, I picked up a call from a homeowner who had contacted five pool companies in the past couple weeks and had not gotten a call back from a single one of them. It's so bad now that almost every new contact I've made recently has mentioned that it's almost impossible to get a call back, let alone real attention.

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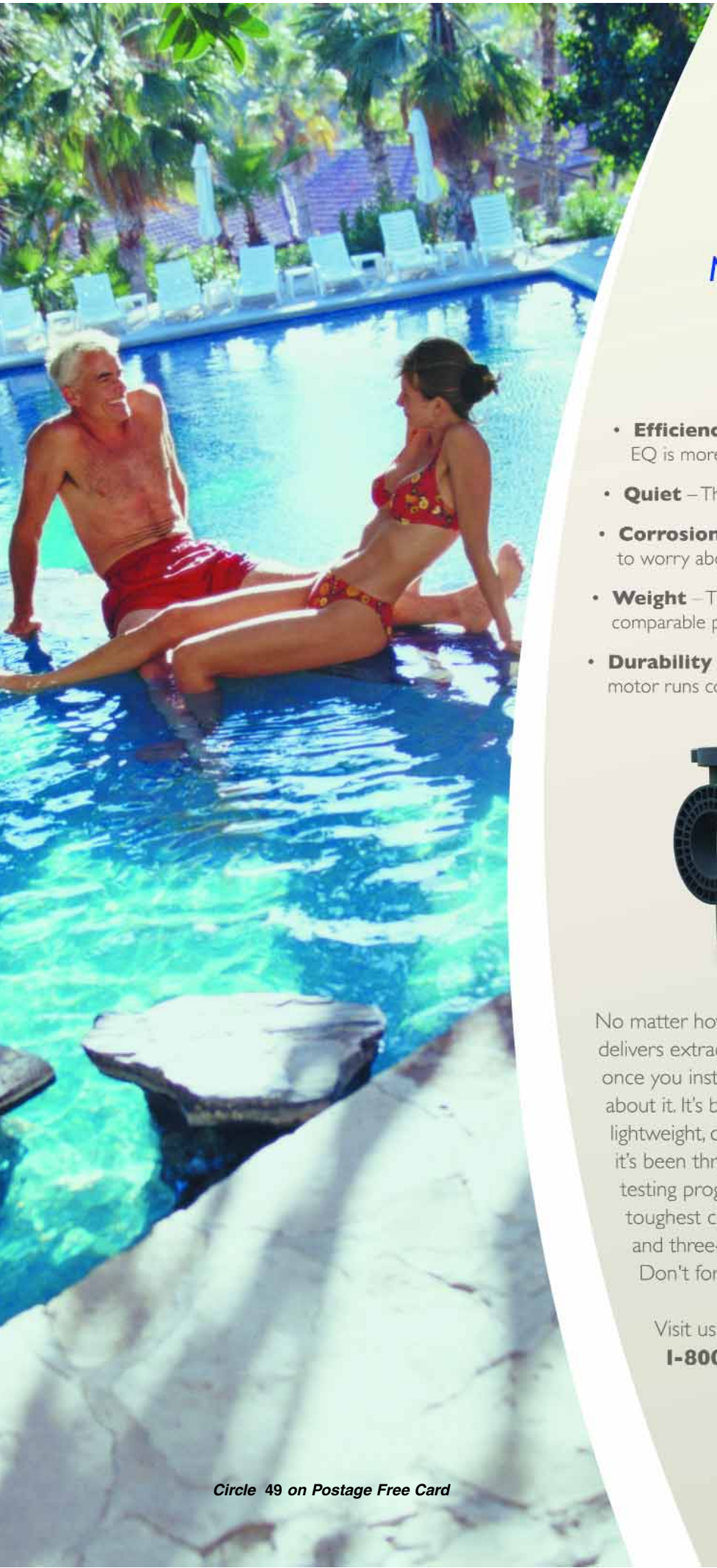

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For all of the inadequacies that can be laid at the feet of the pool industry, to my mind this sort of failure to reach out to potential customers is perhaps the most damaging. There are lots of other ways these consumers can spend their money, and if the impression they draw from our industry is basically an arrogant-seeming lack of interest, it's certain that many will retreat from their interest in buying a watershape.

They don't know how busy we are and how difficult it is for us to keep up: All they know is that they've been treated without courtesy. How would you feel if you called a company to inquire about spending your hard-earned money, only to have your calls generate complete silence? The first time or two it happened, you'd blame the individual firms. As the pattern repeated itself, however, you'd blame the entire industry – and who could fault you for thinking that way?

In business, you have an obligation to respond promptly to the people who contact you.

I'll state it plainly: There is no getting around the fact that every potential customer's inquiry must be answered. No exceptions!

sounds of silence

There are those who'll point to the fact that they are, in fact, completely swamped – so buried, in fact, that there's no need to seek new business. There are those who would state further that taking on new clients in such times would not be in the best interests of either the client or the watershaper.

Frankly, I can relate. My own business has been almost freakishly busy, like a multiplicity of chocolate cakes. I love chocolate cake, but having a dozen sitting out on the table gathering dust and growing mold is not good – and in many ways this season is just too much of a good thing.

I've had to tell some new prospects that I'm simply too busy to take on additional work at the moment. But I think it would be completely out of line to do as some have done and simply ignore those leads without even making a courtesy call to tell them so.

Anyone who's read my columns through the years knows that I'm a bit of a fanatic when it comes to stressing the importance of communication. More than once before, I've tackled the subject of managing the phones and e-mail, and I can only assume that my message has been overwhelmed by current events. So I'll say it again: In business, you have an obligation to respond promptly to the people who contact you.

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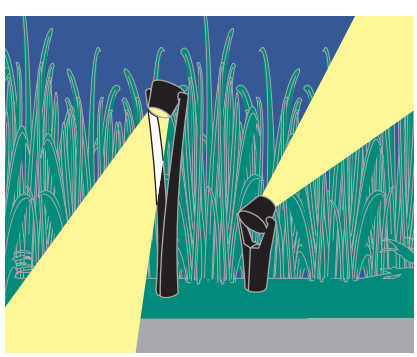

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That doesn't mean you must meet their needs. Lately, I've turned lots of people away – but I never do so without letting them know that if they're willing to wait a reasonable amount of time – a month or two for me in recent times – I'll put them on my list and get back to them. Many decide they can wait; others thank me and continue looking elsewhere.

Either way, it's a message they can understand – and they genuinely seem to prefer it to the silence they've met with from other companies.

The difference from the client's perspective is vast. When we hear that someone in any field is too busy to take on new business, we're left with a strong impression that the person or the firm is in demand. Furthermore, knowing that the busy person took the time to respond, even if it's to make us wait, we feel that our inquiry was treated with a respect that speaks volumes about character.

dead ahead

In stark contrast, consider what happens when a would-be client is greeted by silence.

They have no way of knowing that I'm too busy; all they know is that I haven't returned their calls. For my part, I have no way of knowing what conclusions they may come to in wondering why they were ignored, although I can be pretty sure I haven't made a good impression. They might reasonably ask themselves, "If getting a response to a call to originate the business is so difficult, how tough is it going to be to get a response when there's a problem?"

In the end, it's all about word of mouth and the reputations of our businesses. And in all of the discussions I've ever heard about sales and marketing as they relate to watershaping, there's one theme I've heard repeated over and over in seminars and magazines: Word of mouth is absolutely the best form of advertising.

There is nothing to match the advantages of working off personal referrals. We all know, accept and embrace this concept. And there's nothing that will kill referral business faster than failing to respond to calls from prospects.

If those unanswered calls come by way of a personal referral and the referring party subsequently hears that you made no effort to reply, you can count on the fact that that avenue of referral business is history. And let us never forget that bad news travels much faster than good news: When people are frustrated or angry, they are much more likely to vent their anger without anyone's prompting.

In other words, the time it will take to utterly destroy your referral network through being non-responsive very likely will come to a mere fraction of time it took to create it.

I don't care how busy anyone is in the short run. *Nobody* can afford to discard the seeds of future business as if they no

longer mattered. When you blow off a call from a prospective lead, you are, in a very direct way, killing off future prospects and likely doing so to a much greater extent than you ever imagined.

simple fix

The short solution to this problem is about as basic as can be: Respond to all inquiries!

Yes, it can be hard to do. But it is a direct investment of time and effort in your reputation and tomorrow's success. One way or another, if you're serious about your work, you really have no alternative.

Your response doesn't have to be elaborate. At the very least, program your voicemail with a message indicating that you are working like mad and might need a couple days to return the call. Or give someone in your organization the task of returning calls with a simple message to the same effect.

Prospective clients will understand your message, and so long as you make good on your promise to get back to them – even if they've decided not to wait and have contacted another firm – they will not have been left to define the meaning of the silence for themselves.

As I've stated in previous columns, there are a number of practical steps you can take, including setting time aside for phone work, using time in the car to return calls, and keeping good notes on all contacts for future reference. I won't repeat myself here other than to say that in this business climate, the way you communicate with consumers or other industry members is terribly important.

There is real power in effective communication. It enables you to forge a professional image for yourself or, if mishandled, leaves exactly the opposite impression. Paring back on the number of projects you have on the books in times of feverish activity is a reasonable thing to do – no argument from me there – but there are better ways to accomplish it than by opening yourself to a damaged reputation.

Let me leave you with a suggestion that may help you avoid excess business while actually *improving* your reputation: If you're that busy, it's almost certainly time to increase your prices. Prospects who drop off the boards as a result are those on the lower end of the spectrum. The more profitable jobs will remain in play at an even more favorable margin.

In my own business, I've found that raising prices always has a positive result. I'm paid more for the sorts of projects I most want to tackle anyway – and that, my friends, is a *good* thing. WS

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

By Stephanie Rose

All About Bark

As a designer, I tend to look at the world with an eye to "distinction" – that is, what makes certain objects stand out, what makes them appear round, what makes them catch my eye, what makes me notice them.

By contrast, most "civilians" notice overall appearances. If they're in a garden, for example, they will enjoy the sea of shapes and colors and will generally respond to a particular plant or design element only if it really stands out in some way. Knowing this, I like to play in my garden designs with elements of visual control and on finding ways to direct what the viewer will look at first, then second and so on.

In lots of my gardens, I use trees to capture this sort of attention. Even uninspired observers will take note of a specimen's foliage, branching structure and canopy and appreciate the shade the tree provides. The more observant might perceive that the tree has been placed to block an unwanted view (or to frame a desired view) and might develop a clear sense of the role the tree plays in the garden design.

In all my years of listening to the comments of people walking through gardens, however, I've noticed that they tend to overlook the *bark* – one of the most important design details a tree has to offer. To me, in fact, tree bark may have as much going for it as any flower or shrub. It can lend color and texture, reward attention and can pull designs together – definitely a design force to be considered.

In all my years of listening to the comments of people walking through gardens, I've noticed that they tend to overlook the *bark* – one of the most important design details a tree has to offer.

bark bites

Trees, of course, come in all shapes and sizes. They can be tall and statuesque, small and weeping, distinctly vertical, short and spreading and everything in between. In common, however, trees generally have a strong, structural, wood base that supports smaller, usually higher branches and, ultimately, sprays of foliage on the ends of the branches.

There are, of course, trees that don't fit that generalization, but the wood bases and the bark that covers them can be used effectively in any design if you recognize certain characteristics and choose an appropriate specimen that will, as the design requires, either stand out, complement other plants, or even disappear visually. It all depends upon what you are trying to achieve.

Let's dig in and look more closely at the important visual aspects of any tree's bark:

- **Color:** Tree bark comes in all colors, from the white of many Birch trees to the near-black of the Mesquite tree. *Acer palmatum* 'Sango Kaku' is a Japanese Maple with red bark, while *Chorisia speciosa*, the Floss Silk Tree, has green bark. Other trees, such as *Platanus racemosa* (the California Sycamore), have mottled bark in shades ranging from cream to dark brown mixed with terra cotta flashes.
- **Texture:** Again, not all bark is created equal. The Floss Silk Tree mentioned just above has vertical lines in its green bark and thorns adorning its trunk that would deter any thoughts of tree climbing. For its part, *Melaleuca quinquenervia* has a "peely" bark that flakes off in

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sheets. Many species of Eucalyptus are known for their peeling bark as well and have a completely smooth surface for long periods between bouts of bark-shedding. Even California oaks, which have what I see as an average, non-descript bark, have lines in their bark that create interesting patterns and can draw the eye along their branching structures.

The possibilities in both of these categories are nearly endless, and when you consider combining both color and texture and strategically choosing a tree for a design, it can be hard to know where to begin. In my own work, I take a shortcut at this point and think about the specific need – that is, whether I need something that will capture attention at eye level, or if I want something with more vertical appeal that turns the branches and foliage into the focal point.

getting specific

I've written before about how I used *Acer palmatum* 'Sango Kaku' in the garden of a home in the southern California mountain resort of Lake Arrowhead. This greenleaf, deciduous tree is interesting during the summer months, but it truly stands out during the winter, when its red bark contrasts strongly against a white blanket of snow. In this case, it's specifically the color of the bark that draws the viewers' attention away from evergreens that simply blend into the rest of the landscape.

In the case of the Floss Silk Tree, I challenge anyone who isn't in the landscape profession to describe its leaves from memory. The green bark and its ominous thorns not only dominate all comments about the tree, but completely distract attention away from the canopy. *That's* a conversation piece.

In both these cases and all others where trees with interesting bark come into consideration, the introduction of water to the composition only enhances things. The reflective surface of water captures and redoubles the visual impact of the bark and gives you opportunities to enhance the overall design and the views you create for your clients across small ponds, backyard pools or large lakes.

The range of trees that bear consideration in such settings is long, but while the short list below is far from comprehensive, it covers trees that have bark that creates strong contrasts against surrounding environments – and includes trees I have used successfully in achieving the sorts of captivating visuals discussed here.

w ***Acer palmatum* 'Sango Kaku.'** This Japanese Maple is known for its stunning red bark and is striking when placed all by itself against a white backdrop of either snow or a stark, white wall. Please note that the red colors of the bark fade during warmer weather. It's definitely more striking during the cold winter months.

w ***Betula pendula.*** One of my all-time favorite tree selections, the Weeping

Japanese Maple

Weeping Birch

Floss Silk

Birch always draws attention with its white bark punctuated by brown knots, horizontal lines and spots. These work well in large groupings or groves and make incredible design statements when set against dark-colored walls. When using this tree in a design, I always make sure the bark will be visible and avoid planting anything that will grow higher than 18 inches tall in front of it.

w ***Chorisia speciosa.*** Because of the thorns and possible liability issues, I suggest using Floss Silk Trees in spots where passersby aren't likely to brush up against them. I like using this thorny/green-barked tree as a conversation piece. It has the added distinction of offering large, beautiful, showy flowers that resemble lilies and hibiscus – not something to plant right next to a watershape because of the service implications, but certainly something that shows brilliantly on a reflective surface.

Continued on page 20

w **Eucalyptus.** There are too many varieties of Eucalyptus to count, but the most presentable among them have peeling bark that covers a smooth, leathery "skin." I prefer using them in the background, and I wouldn't recommend using them close to pools, as their leaves will stain plaster – but they make graceful statements by appearing in reflections when planted on the far edges of lakes.

w ***Laegerstroemia indica.*** Crape Myrtles are well known for their summertime range of flower colors. Indeed, when a client is looking for a flowering tree, this slow-growing tree with the single trunk and the smooth, shiny bark is among my first choices. The street I live on is lined with these trees, and I tend to notice the extremely smooth, lacquered appearance of the bark as I walk by almost before I notice the color of the flowers.

Crape Myrtle

w ***Melaleuca quinquenervia.*** Also known as the Cajeput Tree, these specimens look a bit like small Eucalyptus trees with light, brown bark that peels off in sheets – an interesting visual right at eye level. It's a great tree to use when you need a vertical form and also works well when planted in groves or large groupings.

w ***Platanus racemosa.*** As noted above, California Sycamores have a distinct bark in mottled colors. (I once took a close-up picture of the bark and asked people to identify it. Most thought it was an aerial shot of farmland.) Combined with its towering presence, the tree's interesting bark makes it useful as the central "bones" of any garden design.

w ***Ulmus parvifolia.*** The Chinese

California Sycamore

Chinese Evergreen Elm

Evergreen Elm is a beautiful, weeping tree that provides a great canopy in any area where you want to create shade. It is semi-deciduous, but it offers interesting mottled bark year 'round and looks particularly striking when set off against darker green foliage or a dark-painted wall.

This list is short, but I would almost guarantee that any one of these trees placed in a design as a contrasting element will elicit a comment about its unusual bark – especially if the homeowners or maintenance staff are aware of the virtues of keeping their foliage pruned up to provide good eye-level viewing. WS

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

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The five courses described at right are part of an ongoing Education Revolution that includes a series of Construction Schools (premiering in October 2005) taught by recognized designers, engineers and builders including hydraulics expert **Steve Gutai**, tile artist **Scott Fleming**, control specialist **Tom Schoendienst**, watershaper **Paul Benedetti** and engineer **Ron Lacher**, P.E. There's also an expanded roster of seminars at the Aqua Show in November, including outstanding sessions led by landscape architect **Mia Lehrer**, lighting designer **Janet Lennox Moyer**, watergardener **Anthony Archer-Wills** and environmental artists **Ron** and **Suzanne Dirsmith**.

This level of education has been a long time coming for the watershaping trades and will be the key to establishing a new Society of Watershape Designers (SWD) in the months to come. We're also proud to note that these courses are accredited by IACET, AIA and ASLA.

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What happens visually when you place green grass next to a border of red brick as opposed to one of blond stone? What surrounding colors make a watershape recede – or take center stage? This course offers a detailed exploration of color perception that starts with the color wheel and carries you through to individual experimentation and practical applications related to art, architecture and the dynamics of the colors found around water. *Instructor*: **Judith Corona,** a teacher and visual artist whose work has been exhibited in U.S. and European galleries and who is also a fellow of the Whitney Museum of American Art.

Elements of Design

Design is a specific educational discipline that is taught and can be learned – training that enables those who possess it to do extraordinary work for their clients. This course, which introduces participants to the principles of line, texture, shape, balance, proportion, scale, spatial relationships, color interaction and more, will begin developing your perceptual skills and creative awareness in ways that ultimately shape a true designer. *Instructor*: **Donald Gerds**, author of *Perspective: The Grid System* (now in its sixth edition) and an industrial designer with more than 30 years' teaching experience in eight countries.

Measured Perspective

The path to success in watershape design has to do with creating visual representations that let clients see and fully understand the potential harbored in their projects. This advanced course in perspective drawing and rendered elevations cultivates those specific communications skills, developing your competency with two-point perspective while focusing on scale, proportion, structured layouts, grid systems, tone, shadow and more. *Instructor*: **Lawrence Drasin**, an industrial designer who focuses on special-effect interiors and a long-time instructor recognized as Teacher of the Year at UCLA in 2002.

The Vocabulary of Architecture & Style

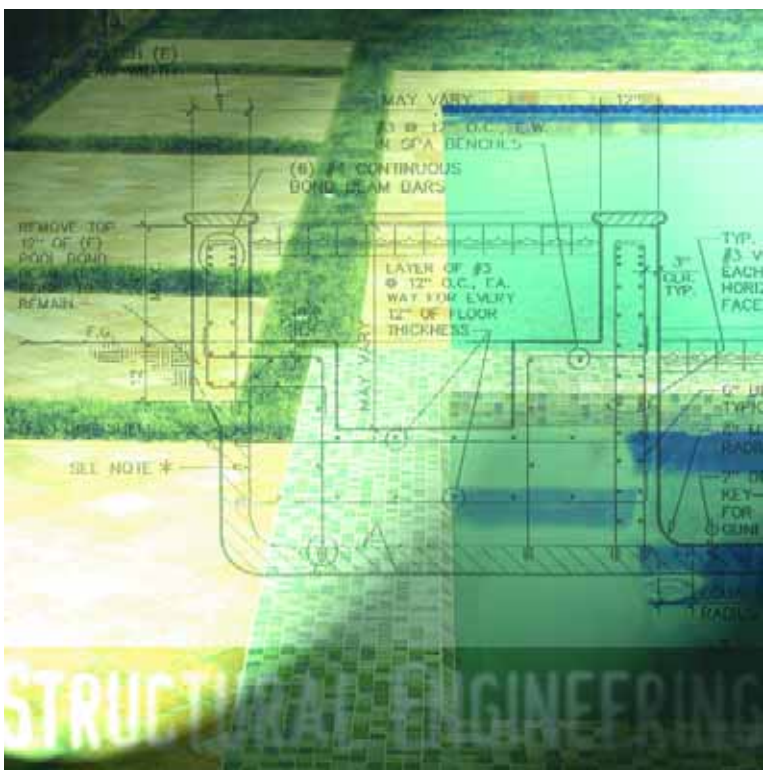
When you speak with prospects and clients, does your level of knowledge of art and architectural history position you to communicate with them in designing a watershape that meets expectations? Can you make your watershapes harmonize with styles found in their homes and the artworks they love? To stimulate that conversational and practical ability, this course surveys architectural history from ancient to modern, including Greek, Roman, Islamic, Renaissance and contemporary examples. *Instructor*: **Mark Holden**, landscape architect and guest instructor at California Polytechnic State University at Pomona and other educational institutions.

Understanding and Designing Fountains and Waterfeatures

Designing a fountain is about much more than sticking a pipe in the ground and watching what happens. Instead, it's about hydraulics and sound and light and control systems that take common head pressure and turn it into something magical. This program offers an intensive examination of the principles and technologies involved in making water flow in precisely controlled patterns to achieve defined and spectacular visual effects. *Instructors*: **Paul L'Heureux** and **Larry O'Hearn**, fountain designers and engineers with years of experience teaching designers and clients what can and can't be done with water in motion.

By David Tisherman

On the Beam



Every single project I design and build is fully, individually engineered, and I refuse to make any assumptions on my own about what might be needed in a set of plans to create a sound structure.

Let me make an important point: As interesting as some of the details I discuss in these columns may be, many of the more significant ones wouldn't have any substance or value to my clients without the contributions of one very important person: my friend Mark Smith of Tarzana, Calif., whose firm takes care of my structural engineering.

I'd go so far to say that he and his staff are critically important external members of my design team – professionals who know more than I will ever know about steel, concrete, tension and compression.

Every single project I design and build is fully, individually engineered, and I refuse to make any assumptions on my own about what might be needed in a set of plans to create a sound structure. If any builder anywhere thinks that he or she knows enough to get by without support from a structural engineer, well, that's just asking for trouble. When it comes to engineering and construction practices, I'll never hesitate to sing Smith's praises – or call on his expertise.

Not all structural engineering services operate at his level. He's an architect who knows about engineering, codes and building practices. On his staff are Jay Schniderman, a civil engineer who's been with the firm for more than ten years; and Ron Soderstrom, who runs the production department and has been with Smith for more than 20 years. They know pools inside and out and approach the work with an incredibly helpful measure of creativity.

down to details

I know what I don't know, frankly, and I sleep well at night knowing that my plans begin with their work and always move forward with their ongoing support. One of the big areas where builders who don't work with competent technical support will often lose their way – and rightfully should be losing some sleep – comes when they do their own "engineering" with remodeling projects.

Time and again, I've seen builders add spas to swimming pools (one of the most common of all remodeling requests) by simply doweling a few pieces of steel into the top of the bond beam and then building a spa on top of it. Anywhere from six months to six years later, such a spa will almost invariably crack. Most often, the problem is that the builder didn't allow for the proper overlapping of steel from the existing structure or, even worse, relied exclusively on a bit of doweling.

Adding something like a spa to an existing structure isn't that tricky if you have the right plan and stick to it during construction. I guess it's this simplicity that inclines builders to approach the work too casually, but I'd argue that this is a case where good structural engineering not only makes for sound construction, but is also critical to making any sort of strong visual statement.

Nowadays, many of the spas added to pools are simply set inside the existing shells. It's a nice approach because it conserves space and makes the spa look more as though it was part of the original construction. It isn't all that difficult to do, either.

The problem here is visual: When you pour the new wall for the part of the spa that butts up against the existing shell, the easy way out is to

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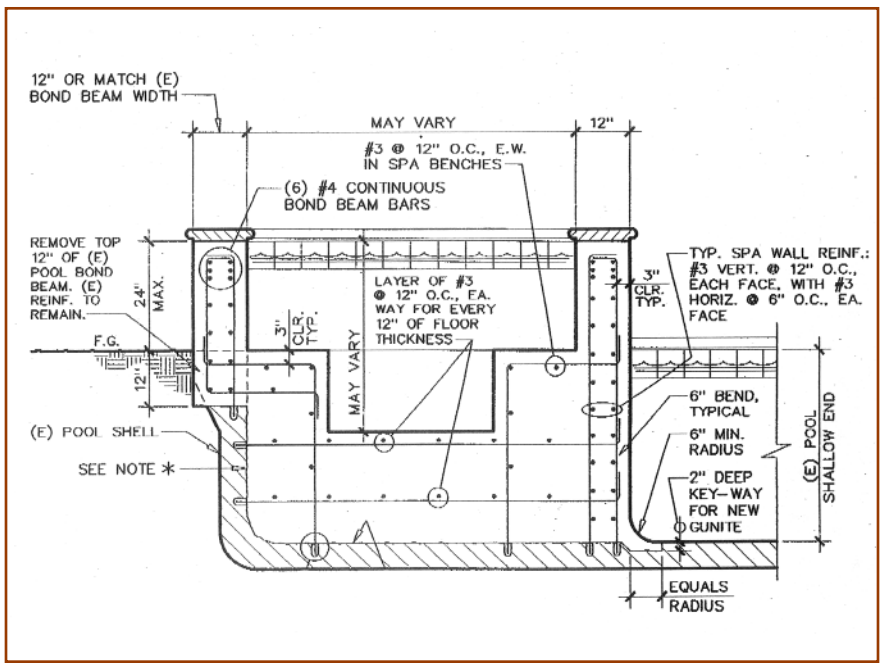
create a portion of the pool/spa wall that will be twice as thick as the walls of the rest of the pool. This creates a visual interruption that, to my eyes anyway, is not the cleanest possible look.

It's not the only way to go. In the case of the renovation job I began discussing in the May 2005 issue (page 26), for example, there's a visual option that is better suited to the materials being used inside and outside the original pool and new spa. It's more complicated structurally, but what I did was cantilever the spa wall over the existing bond beam, thereby preserving the appearance of a wall with uniform thickness. (Such a detail can be used to insert a spa that is either raised above the level of the rest of the pool, or one that is level with the existing body of water.)

It's more work to do it this way, of course. The first step involves demolition of the top of the bond beam and lowering of the existing wall down to the needed level. That level will vary from project to project, of course, and obviously you'll



Schematic by Mark Smith, Tarzana, Calif.

The detail I used in this renovation project involved a more complex construction project than would have been the case if we'd simply enclosed the new spa within the existing, undisturbed walls of the pool. In this case, we decided that the visual benefits of cutting down the wall and surmounting it with the spa were superior to the alternative approaches.

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As you walk out the main door from the house to the backyard, the wall in the new spa aligns perfectly with the coping along the new thermal ledge we established within the pool.

The effect of the visual alignment is even more evident on the long wall of the pool, where the continuity of lines and shapes create an overall impression of unity within the space.

take the wall down further with a pool-level spa than you would with a raised spa.

Chipping away the top of the bond beam and leaving it rough (but clean) has the added advantage of providing a good mechanical bond with the new spa wall.

moving along

The next step in the process is forming the spa. This has been discussed in a number of my columns and articles and is all about establishing a surface that will withstand the pressures exerted by shooting gunite or shotcrete up against it.

Bottom line: You want to set up forms that are rigid enough that they won't move when they're being hit by the concrete. If there's any wobble or give during the shoot, the forms will vibrate, push away from the steel and encourage voids that will compromise the structure's integrity – a big problem.

There's an aesthetic issue here, too: Movement of the forms will create a wall that is visually irregular and misaligned with the rest of the pool, so all the work you're doing to create an impression of uniformity will be wasted.

For all of the importance of proper forming, however, it doesn't mean a thing unless the project is properly engineered. In this example, the engineering details specify the extent of the overlap for the steel between the existing structure and the new spa; the thickness of the floor; and the layout of the steel structure.

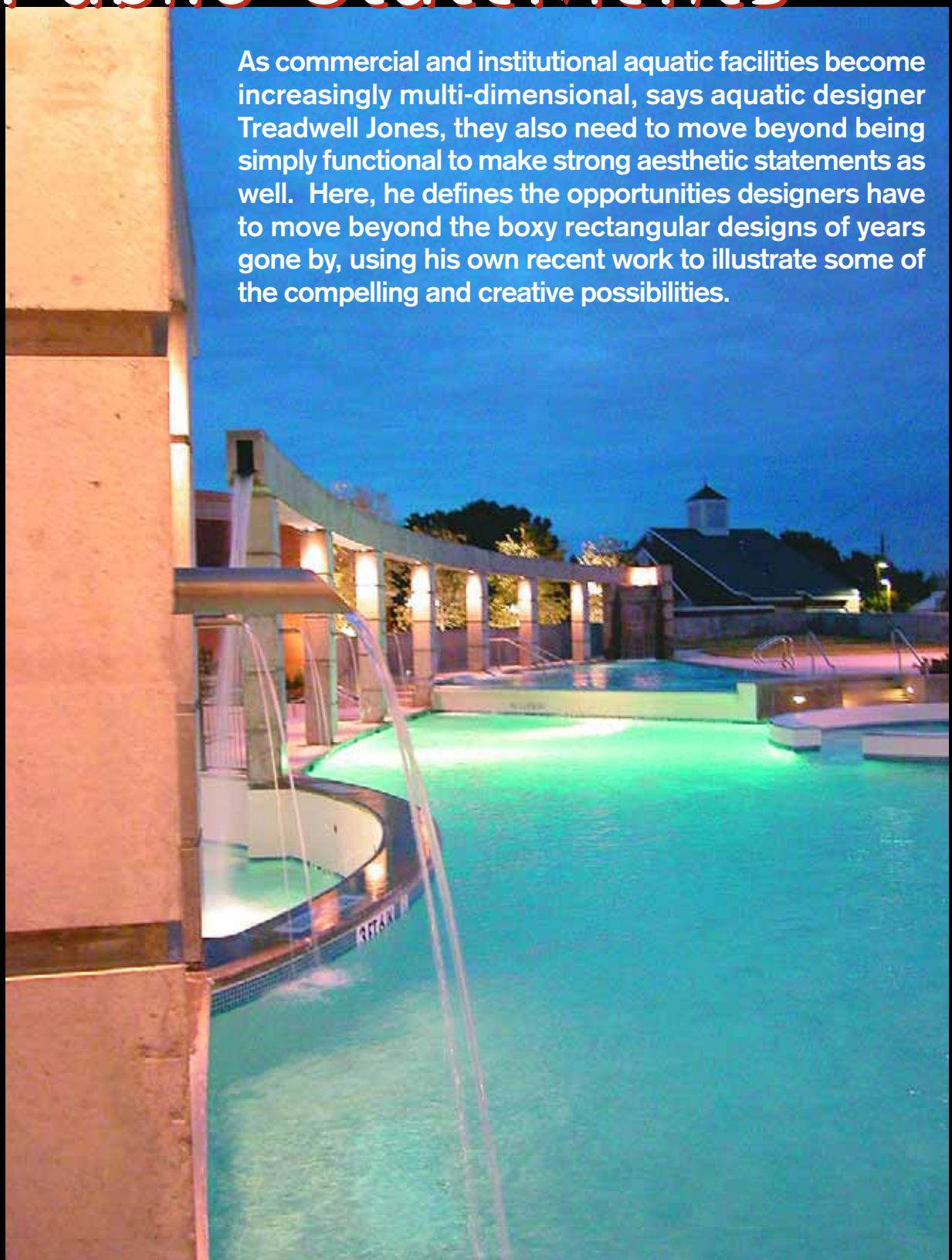
This plan rolls forward through the entire construction process, shaping our thoughts about the plumbing and where the lines will run (through new steps in this design) to serve the needs of the new spa. It also sets the tone for the electrical system, spillway design and numerous tile details.

With this information in hand and application of proper construction practices, there's virtually no chance that the structure will fail, barring some seismic catastrophe. Without this basic engineering, failure is instead the usual outcome. In this case, a cantilevered wall that was created with aesthetics solely in mind is possible only because it could be reliably engineered.

This detail was created for a project that wound up with eleven spillways, a thermal shelf, steps that run the length of the pool and a beautiful glass-tile finish with a mix of green, clear and pale blue tiles. Creating a sense that the structure was monolithic lends visual unity to the watershape and, in the end, makes it appear as though the handsome little spa was part of the original construction. WS

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

Public Statements



As commercial and institutional aquatic facilities become increasingly multi-dimensional, says aquatic designer Treadwell Jones, they also need to move beyond being simply functional to make strong aesthetic statements as well. Here, he defines the opportunities designers have to move beyond the boxy rectangular designs of years gone by, using his own recent work to illustrate some of the compelling and creative possibilities.

By Treadwell Jones

When it comes to the old buildings that people most want to preserve, the good-looking ones always top the list. These structures are cherished because they make strong aesthetic statements and are often associated with a given period of history, a particular architect or a specific design movement.

As an architect working to create public and institutional aquatic complexes, I try to think of my designs in those enduring terms. In other words, I want to develop watershapes that make strong aesthetic statements and therefore have a chance to be cherished and therefore stand a better chance of being preserved, well used and enjoyed for generations to come.

I do so because a facility that is both functional *and* beautiful will, I think, inevitably be of greater value to its community than one that is simply functional.

Ugly buildings do the exact same job as beautiful ones in sheltering human activities, but which are more likely to generate excitement, enjoyment and value for the long haul? The answer, I think, is obvious. As a result, I see aquatic facilities as places that should be beautiful.

Function Before Form

For all of that, it must be said that the most attractive aquatic facility isn't worth a thing if it doesn't have the required functionality. In fact, whenever I'm given the opportunity to design one of these spaces, my thought processes always start with key questions about client priorities – the who, what, when, where and why of the pre-planning process.

At this level, I've found that clients are often sophisticated and that a good number of them have had experiences at different levels with other facilities. So I start by asking for their observations and ideas and for their vision of the new facility, right down to desired activities, anticipated usage, the ages of projected users and more.

Their answers yield a list of elements and priorities that guide my work in the concept phase. Every project is unique, of course, but I've noticed the emergence of certain patterns in recent years – especially a near-universal desire for facilities that are not only multi-*functional*, but also multi-*generational*.

This trend extends from the belief that facilities providing activities and amenities and safe, comfortable environments for entire families will draw greater attendance and visits of longer duration than will those with more limited ambitions. And there are indeed direct correlations to be made between the presence of multi-generational elements/design schemes and facilities' financial success.

Hand in hand with this movement toward generational diversity is the thought that accommodating a broad spectrum of age groups turns these places into venues for shared family and community experiences, all centered on healthful and enjoyable activities.

Yet even though the enjoyment of water is manifestly common to all generations, the plain fact is that a small child's involvement with it is much different from a teenager's or a thirty-something's or a senior citizen's. Not only does this complicate facility design in many respects, but, more important, it also forces us to consider the significance of some very basic design elements.

Beach entries, for example, become amazingly significant. These sloped access ways – which originated partly in residential pools, partly in the wave pools of waterparks – give parents and small children a chance to experience the water together, safely and comfortably, instead of forcing them to move off to a separate wading pool.

Careful Weaving

In the traditional paradigm, aquatic facilities had these separate rectangular or round wading pools for smaller children.

Such configurations, however, do not account for the transitional groups of children who are in the early stages of learning to swim and for whom a beach entry provides a useful bridge to the larger aquatic environment.

The kids feel safe, parents are reassured. The kids can play, parents can relax. And all of this increased utility, participation and fun comes from the simple deployment of a beach entry. Better yet, beyond this functionality, beach entries also happen to make much more interesting visual statements than do the aforementioned wading pools.

Shade structures are another example of simple elements that provide key functionality while offering the potential for dramatic architectural statements as well. When visitors of all ages can escape direct sunlight on hot summer days, they're more apt to stay longer. In addition, as Baby Boomers slide into middle age, we're steadily bombarded by news of the sun's skin-damaging potential.

Accordingly, the presence of shaded areas spells the difference between parents dropping kids off at a facility on the one hand and coming along with them to spend time visiting with other parents (and their own kids) on the other. By any definition, these simple shade structures are extremely important amenities in modern times.

The implications of including such new-fangled amenities go on: Parents, for instance, want to relax while being able to maintain easy visual contact with their smaller children, which indicates a need to place shade structures adjacent to areas (such as beach entries) where young children are most likely to spend their time. Beach entries are also often *the* perfect places to locate interactive elements such as spray nozzles and slides. By combining these three elements into one area, we create self-contained "family zones."

But say, for example, you place a pair of waterslides that appeal to teenagers next to lap lanes where you're likely to find older adults and more serious swimmers: This is a conflict of activities that can be avoided by thinking in terms of a whole series of zones – tot-and-family zones, zones for young children who are new (and less-confident) swimmers, zones for teenagers who want to hang out by the pool and have fun, zones for seniors who take their time in the water more seriously.

Division of Function

Exactly how each of these zones is arranged and configured relative to the others has everything to do with budgets, space and client priorities. There are, however, commonsense ways of thinking about certain areas. Large waterslides, for example, generally appeal to those in the seven-to-15-year-old range, while beach entries appeal to small children and parents. Diving areas appeal to teens, lap lanes to seniors.

Areas away from the pool that allow viewing of these areas should be designed with the needs of each user group in mind. We should know, for example, that teenagers will almost certainly take over the deck area around the diving pool, while the deck near the lap lanes will host mostly middle-aged adults and seniors. When possible, it's a good idea to keep those areas separate to avoid conflicts related to teenage boisterousness and volume, but there are also subtle design distinctions we can apply to those areas that have to do with types of seating, immediacy of access to the water, areas of privacy, access to locker rooms, placement of concessions and more.

Things get interesting with elements such as lazy rivers, which are so appealing that they draw people of all ages. Kids and adults alike love to float around in the gently moving channels of these waterfeatures, and seniors enjoy walking against the current as a form of low-impact exercise. This leads to many designs in which these rivers flow from zone to zone as unifying elements.

The possible permutations of design elements and amenities are truly limitless, which is why it's so important to approach discussions with clients and the subsequent layout and design processes with functionality and user needs high in mind.

If that's all there was to it, the specific engineering, budgeting and construction challenges with each project would still be quite complicated. But when you add *aesthetic* considerations to project fundamentals (as we invariably do), the process of conceptualizing an aquatic facility steps up to an even higher level of complexity.

Let me be blunt for a moment: In days not long gone by, engineers and pool contractors designed most aquatic facilities, and one of their prime directives was to satisfy health department regulations in the strictest and most direct possible terms.

In these two Larkin Aquatics projects, the multi-generational purposing of the complex is clear in the basic layout of in-pool activities and nearby observation and/or lounging areas. With this approach, a huge amount of activity can take place with few conflicts, even in relatively compact spaces.

Photos courtesy Larkin Aquatics, Kansas City, Mo.

Many facilities built in the 1980s bear witness to the aesthetics-crushing nature of that directive: Designing stopped once lap swimming, diving and aquatic sports were accommodated; everything else around the pool existed solely to facilitate those activities and satisfy code requirements for deck space and handicapped access.

That narrow mode of design thinking is probably fine for facilities dedicated to competition and capably satisfies the needs of swimming instruction, aquatic exercise and safety training. But the aesthetics were rarely considered, if at all.

Behind the Looks

Don't get me wrong: Lap swimming, aquatic exercise and safety training are wonderful and valued activities, but the erstwhile exclusive focus on these elements needs to be swept completely away in favor of a more recent trend to factor aesthetics into the mix along with the multi-generational considerations discussed above.

Oddly, credit for much of the progress in the direction of aesthetic considerations comes from an unexpected source: *waterparks*.

These waterparks are fanciful places. They tend to be colorful and visually striking (when they're not being willfully garish, that is). And because they exist to generate profits by way of attendance and the sale of concessions, the designers of these facilities and the manufacturers of their interactive waterfeatures have pushed the envelope in terms of developing ever more exciting details. In fact, wave pools, large water slides, lazy rivers and shallow-water play structures all owe their origins and proliferation to waterparks.

A great many of these elements have proved wonderfully transferable to aquatic facilities operated by cities and other public institutions, including universities. Because it is human nature to want what we've seen, the presence of exciting waterpark elements has clearly raised the bar for the experiences people expect or want to have in other aquatic settings.

This, I think, is what has placed a premium on both fun and aesthetics in today's public aquatic facilities. Once the

Fun Zones

Beachwood Family Aquatic Center
Beachwood, Ohio

This is what I'd characterize as an archetypal multi-faceted, community-inspired aquatic facility. Visitors slip through a sequence of experiences and zones as they move through the facility, starting with the ornamental wooden gate.

The first thing they see upon entry is the spray ground, with its array of interactive elements. Moving along, there's an elevation change and a rise to an upper swimming pool where there are zones for bigger kids and space for the waterslide. Beyond that, pushed way to the back, is the adult leisure area.

We made broad use of peninsulas to separate various areas while providing extended pool edges and bench areas. The color scheme, which reflects the flavors of Provence in France right down to the umbrellas, was chosen by the owners.

Photos by Treadwell Jones; courtesy Counsilman/Hunsaker, St. Louis, Mo.

play elements started transferring over from waterparks, we began to see the antiseptic environments dictated by health-department-driven aesthetics being replaced with more visually stimulating environments. Run with a modern sense of multi-generational functionality, the new facilities have proved extremely successful since they first began appearing during the 1990s.

Although the aesthetics of these facilities have been improving, progress on this artistic end has been much slower than it has been on the programming end. I have the feeling that this is because the public, numbed by the aesthetic excesses of waterparks, have yet to develop a sense of just how beautiful their communities' aquatic facilities can be.

The best, I think, is yet to come.

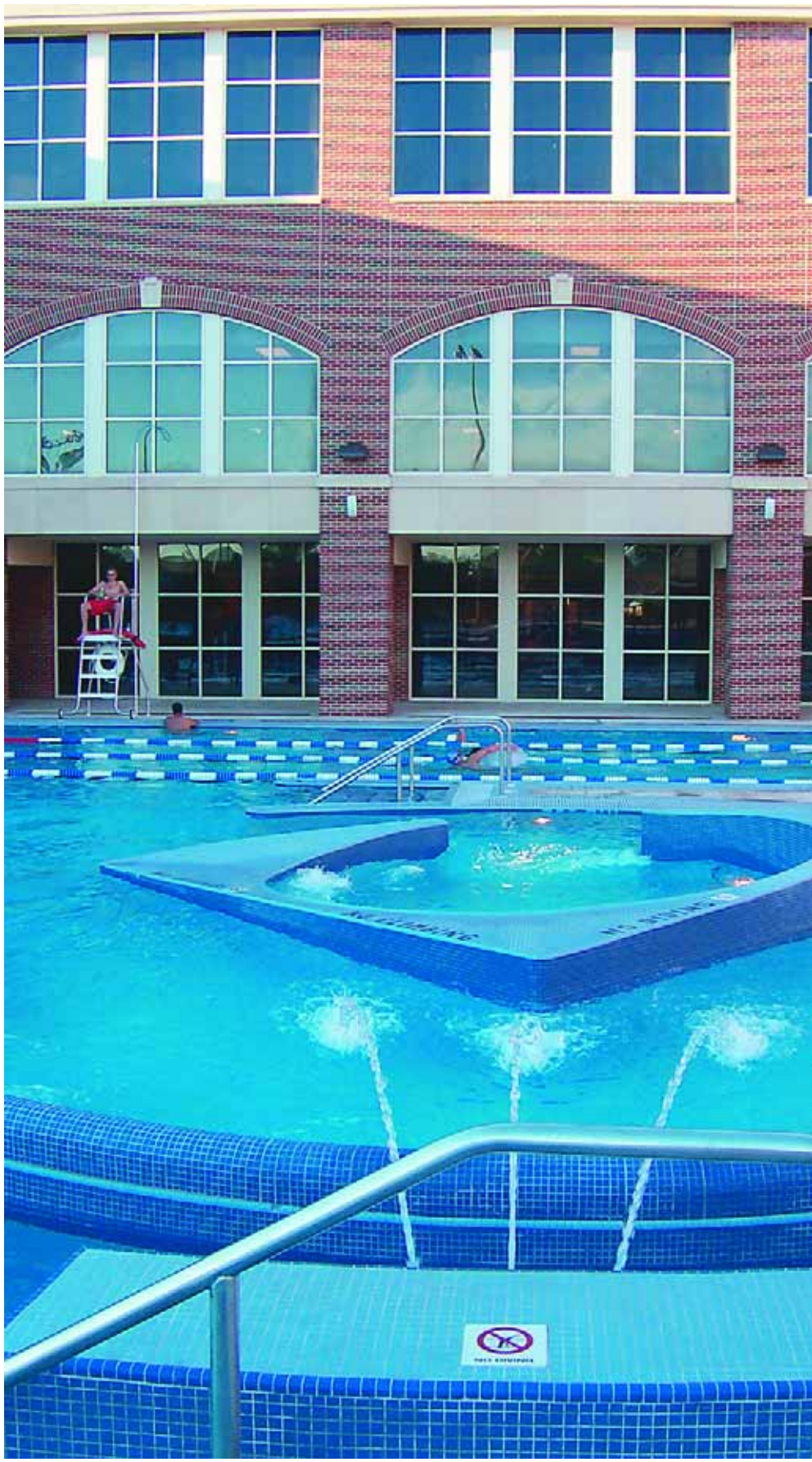
Measured Approaches

For my part, I do not attempt to replicate the waterpark experience by importing specific visual cues from them. Instead, I provide visually stimulating spaces that make distinct architectural statements by working with elements commonly found in resort pools or high-end residential designs.

My approach begins with the idea of a park in the sense that the watershapes become part of either a natural or architectural setting. In other words, the aquatic facility is seen as an integral part of a larger environment rather than as something separate and isolated from it.

There are a number of specific ways this fusion occurs. We will repeat architectural elements from the surrounding structures or landscapes in the shapes of the watershapes and adjoining structures, for example, or we will:

- make use of vertical elements in shade structures or waterfeatures
- use changes in elevation to create overflows and distinguish user zones
- manage views and focal points from surrounding areas and from within the water
- use plant materials to soften edges
- incorporate tile, textured metal, colored concrete and stone
- use points of entry and egress to make explicit architectural statements



Photos by Treadwell Jones; courtesy Counsilman/Hunsaker

Visual Core

Colvin Center, Oklahoma State University
Oklahoma City, Oklahoma

The project architects and university representative did not want a campus waterpark; instead, they were after an architectural statement that would be visible from the windows of the university's fitness center.

There are a number of classical visual references in this design. We played on axial elements, with sleek curvilinear shapes juxtaposed against angled shapes. Knowing this was a space that would be used primarily by students, we allowed for lots of social spaces with abundant underwater seating and places to hang out in or by the water.

The circular area features current-stream channels for exercise on the outside of the "cheese wedge" design at the center of the pool. Inside the wedge is a free-flowing vortex effect. There's also an upper pool that spills into the circular pool with the wedge at its center.

The upper zone is strictly for lounging in various depths of water, with measures of variety provided by an array of simple moving-water effects.

• deploy curvilinear forms and organic shapes in the place of purely rectilinear designs

• stretch our consideration of aesthetics to include adjacent structures such as fences, locker rooms and office spaces.

None of these considerations are alien to those who design high-end residential pools, but they're still somewhat revolutionary in the realm of large-scale aquatic facilities.

Of course, every facility is different and just how these sorts of considerations play out will vary from project to project. Budgets are all over the map, as are the site conditions we encounter. Through it all, we have now identified aesthetics as a key design goal – so much so that in my discussions with clients I often discuss the concept of using aesthetics as a way to protect the investment a community or organization is making in the facility.

Under the old paradigm, an aquatic facility might last only as long as the pipes and concrete with which it is built. With no abiding aesthetic value, there's no motivation to maintain and preserve the watershapes and carry them into the community's future. As with their cherished buildings, however, communities will preserve an aquatic facility that is perceived as special.

Creating a Legacy

That in mind, *every* watershape facility should be special, especially those we build in the public arena. They are highly specialized gathering places and in that sense are not unlike churches, schools or city halls. When any of those facilities is perceived to have value, the experiences taking place within it are often considered to be of greater significance and more memorable.

It's my view that watershapers working in the public realm have a responsibility to create works of architectural value. Yes, it complicates the work, especially considering the continuing expansion of functionality. When we hit the mark, however, appealing facilities elevate the value of the aquatic experience in the communities in which we work – and pass it along to future generations of families that will spend time together in the spaces we create.

Photo by Treadwell Jones; courtesy Counsilman/Hunsaker

Photo by Roger Hein

Photos by Roger Hein

Cool Curves

Addison Athletic Club
Addison, Texas

This project was driven by project architect Ron Hobbs, who had a vision for the entire facility and wanted the watershape elements to reflect his overall site design.

From above, you can see that the overall site plan includes angles and curves that reverberate from the parking lot through the building and straight into the watershapes in a collision of crisp, modernist contours.

When seen through the windows of an indoor fitness center, the aquatic facility is perceived as a collection of elevation changes and sheeting water effects that emanate from an arcade of sculptural columns. Those vertical structures are clearly an *homage* to Mexican architect Ricardo Legorreta, but some of the details of the water's flow reveal the additional influence of Japanese architect Tadao Ando.

The three levels of the facility define its zones: The upper level is the adult leisure area, while the lower area is a splash-and-play zone for kids from seven to 15 years of age. Between the two is a circular pool for tots. The owners were very clear that they didn't want the usual play features and sprays, so the water flowing from the columns and the elevation transitions provides for interactivity.

Overall, it's a sculptured setting that provides a welcoming view from the fitness center and plenty of opportunities for multi-generational use.

Chemical Solutions

By Jeff Freeman

When it comes to watershapes designed for human interaction – including pools, spas and fountains – the chemical treatment of the water is a key safety issue that can be handled in a variety of ways. Indeed, says water-chemistry expert Jeff Freeman, so many products and so many approaches are available that the average designer or builder could probably use a bit of guidance to help them keep everything straight, both for themselves and their clients.

Water is one of the planet's most dynamic and complex chemical compounds. On its creative side, dyhydrogen monoxide (H_2O) acts as the matrix for a variety of compounds that engender plant and animal life. On its destructive side, it is an agent that corrodes, dissolves and precipitates mineral compounds.

As watershapers, our challenge is to work with all aspects of water's active character – a challenge that has occupied chemists, hydrologists and biologists for generations. Indeed, we are all caught up in the same longstanding, collective effort to transpose to artificial systems a set of processes that exist in nature to balance and sanitize water.

Meeting the demand for clean, clear water in recreational and decorative environments is no small task, especially when those systems are designed for bathing, swimming and possible ingestion. In fact, whether we look at it as a construction material or as an aesthetic medium, managing the water is every bit as critical to our success as are structural engineering, hydraulics or materials selection.

Fortunately, humans are inventive, and there's a grand history of engineered solutions that counteract water's inclination to harbor and encourage bacteria, viruses, algae, insects and chemical toxins. From the smallest wading pools to the most glorious commercial pools, we are able to participate in aquatic environments because of clear-headed and effective application of techniques and technologies that simplify what we do in keeping water clean and pristine.

MOTHERS OF INVENTION

It's safe to assume that human beings, since the dawn of time, have sought to immerse their bodies in water for the full and obvious range of recreational, health and spiritual reasons. By the time we decided to contain water for drinking, swimming, bathing and luxuriating, it was certainly recognized that we either had to replace the water continuously or treat it in some chemical way.

The baths of the Roman Empire dot the map from Asia Minor to the Iberian Peninsula and from North Africa to England. Their designers installed copper and silver plates in the feed-water systems that were eroded as water flowed into the baths. *Thousands* of years ago, in other words, watershapers recognized that the dissolution of silver and copper in water reduced algae growth and made the water safer.

Only recently have biologists confirmed what the Roman watershapers already seem to have known on some level: that silver ions work to kill and retard the development of many types of bacteria and that copper ions slow the growth of and kill algae.

For the most part, however, the pools, baths and fountains built before the Industrial Revolution in the 19th Century relied on draining and replacement of water – your basic fill-and-draw systems. With the advent of chlorine as a water sanitizer at the end of that century, however, the picture changed forever: When chlorine was added to public water systems,

rates of infection by waterborne diseases dropped to the point where many diseases, including typhus, typhoid and dysentery, all but vanished in the industrialized world.

Nobody knows where or when the first swimming pool was treated by chlorine, but it's easy to presume that some form of sodium hypochlorite (liquid bleach) was added manually from a bottle. The enduring effects of that simple turn of the wrist have been profound: Today, the vast majority of the world's millions of pools, spas and fountains are treated with chlorine-containing compounds.

Chlorine chemistry and the industry that grew up around it flourished in the 20th Century, marked by the development of various dosage forms. We still have liquid chlorine, but it's been joined by tablet, granular and gaseous versions that are all easily soluble in water.

Along with them came a range of devices we use to add chemicals without the need for physical contact with chlorine on the part of homeowners or service providers. These technologies have been developed in the names of both convenience and safety – and they've since been joined by dozens of variant technologies that all aim to do the same job of making the water safe for use.

THE HUMAN ELEMENT

Whenever a person dips into the water, they add organic compounds to it in the forms of sweat, urine, skin, blood, saliva, dirt, cosmetics and suntan lotion. This is a challenge to water sanitization, because all of those additions bring organic chemical compounds to the water that consume chlorine and other sanitizers and give rise to bacteria and algae.

These compounds are consumed by chlorine in the process known as *oxidation*. Basically, chlorine "burns up" the organics it encounters in the water in the same way it does bacteria and algae. What this means is that, in the course of normal usage, watershapes consume chemicals in commensurate levels to meet bather demand. Likewise, as dirt, debris and fertilizers find their ways into the pool, they, too, consume sanitizers and oxidizers.

Somewhere along the line, it was recognized that adding these chemicals by hand (using the bottle-at-the-end-of-the-arm method) was grossly inconvenient, especially for large bodies of water that served the needs of large numbers of bathers. Before long, we were looking for ways to do the dosing automatically.

As watershapers, our challenge is to work with all aspects of water's active character – a challenge that has occupied chemists, hydrologists and biologists for generations.

The developmental history of these chemical-feeding methods is well beyond the scope of this article; what we will cover instead is the need among designers and builders to know how to sort out the numerous and sometimes confusing options available to us in the here and now as 21st-century watershapers.

One thought that must be overcome in sorting things out is the notion that people who service and maintain watershapes are the sole custodians of the water. To be sure, they play major roles, but the professionals who design, engineer and build the watershapes have an equal if not greater role in setting the stage for everything that follows.

In fact, I'd argue that the opportunity to specify or place chemical feeders and generators during system development puts significant responsibility at the feet of the watershapers and requires them to make wise, informed choices well before any technician arrives on site.

With that as our context, let's review the available technologies (starting with the simplest) and consider their advantages and drawbacks.

w **Floating Feeders:** To this day, the most familiar of all chemical feeders is the floating feeder. Historically, however, this is actually among the more recent developments and arose from the need to san-

Sanitizer Sanity

Positioned at number 17 on the Periodic Table of Elements, chlorine is one of the "halogen" family of elements, a grouping that also includes fluorine, bromine and iodine.

Among all the halogens, chlorine stands as the leading means of sanitizing drinking water and the water in swimming pools, spas and other interactive waterfeatures. To meet these needs, suppliers have developed a number of chlorine compounds – sodium hypochlorite (liquid bleach), calcium hypochlorite (granular), trichlor and sodium dichlor (tablets and powders) and lithium hypochlorite (granular) – to go along with elemental chlorine (gas).

One of the other halogens is bromine, which, like chlorine, can be used to kill bacteria in water. Bromine (number 35 on the Periodic Table) is different from chlorine in that when it is used to sanitize water, it does not produce the bothersome "chlorine smell," which makes it a wonderful choice for indoor pools and spas where the fact that it is readily destroyed when exposed to sunlight becomes irrelevant.

It's a case where a bit of knowledge on the part of the system designer or builder is helpful indeed: Where stabilized chlorines are not the best choice for indoor pools because of odors – and where their use indoors is not essential because the water is effectively shielded from the sun – bromines have complementary properties that make them well suited to indoor use.

– J.F.

itize pools with virtually no effort and at minimum cost. "Floaters," as they're widely known, were made possible by the development of chlorine tablets, specifically in the stabilized, pH-neutral form known as "trichlor."

These slow-dissolving tablets of chlorine float in feeders across pools ranging from the most inexpensive above-grounds to the most exotic concrete pools and add chorine without any human effort at all beyond the occasional need to add fresh tablets.

Floaters, however, are grossly imprecise: They are not, for example, able to treat pools according to real "chemical demand" or in large quantities. When they get stuck in one part of the pool (which often happens), they also create highly treated pockets of water that disperse only slowly. Finally, critics of floaters point out that children sometimes play with floaters, which are sometimes decked out as animals and look a bit too much like toys. As a result, kids can be exposed to heavily treated concentrations of water that may be harmful to them.

Erosion Feeders: Tablet-form chlorine's ability to provide sustainable sanitizer residuals in water was further advanced by simple erosion feeders. These ingenious devices consist of containers that store chlorine products and are plumbed in line with a watershape's return system. Water flowing through the feeder gradually erodes the tablets, releasing dissolved chlorine compounds directly into the body of water.

The primary advantage of trichlor tablets is that they are formulated with isocyanuric acid, a stabilizing compound familiar to pool-industry people but perhaps less well-known among landscape architects and fountain builders. Its inclusion is significant because the active form of chlorine – hypochlorous acid – is extremely susceptible to ultraviolet degradation in sunlight. When cyanuric acid is dissolved in water, it protects the chlorine content from UV degradation.

Thus, erosion feeders offer the dual advantage of treating water with "stabilized chlorine" for controlled, longer-term protection.

The problem with erosion feeders is that they are still, for all their virtues, quite imprecise. The amount of chemical added to the water is dependent upon the size of the feeder relative to the flow of water through it. In addition, the tablets are incapable of responding to peak demands because they are designed to dissolve slowly. So in spas or high-use watershapes of any kind, there will be times when proper sanitization requires intervention of the bottle-at-the-end-of-the-arm variety.

Metered Solutions: The other basic approach to chemical feeding involves the use of chemical pumps that draw metered amounts of liquid chemicals from a reservoir at preset intervals and in preset quantities. These systems rely on liquid forms of sanitizing chemicals, gener-

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ally sodium hypochlorite. These metered-chlorine systems generally consist of drums of bleach with tubing and small feeder pumps that draw fluid from the drum as the timer dictates.

Two pump technologies have dominated this market for decades, one being the *peristaltic* pump, the other being the *diaphragm* pump. Both are compact and in their modern incarnations provide adjustable timing that enables variable amounts of chemical injection in response to need.

w **Oxidation Reduction Potential (ORP):** The activity of a sanitizer can be monitored by measuring a small electrical current passing through the water from one electrode to another. ORP meters can sense drops in the "oxidation reduction potential," indicating a decrease in sanitizing action and triggering a chemical pump that raises the sanitizer level.

These systems have proved remarkably effective in pools subject to heavy bather loads and/or varying bather loads and have the great virtue of releasing sanitizers into the water as needed. This helps in avoiding dramatic peaks and valleys in sanitizer residuals, which in turn aids in maintaining balanced water and ensuring that bathers will be not be exposed to water with either too little or too much sanitizer.

ORP meters are often paired with automatic pH controllers. These systems electronically monitor pH levels and will add acid or base chemicals to the water whenever the pH level moves beyond preset ranges – typically pH 7.4 to 7.6.

w **Ozone generation:** The use of

Downstream Addition

It's a rule with very few exceptions: Whenever you're adding chemicals to contained, controlled water using some type of feeder or sanitizer-generation technology, they must be added *after* the water has been filtered and heated.

The reasons for this are straightforward: First, it makes little sense to treat the water before it's been filtered, because the filter removes dirt from the water and reduces the work to be done by the sanitizer and oxidizer. It doesn't take a chemist to figure out that treating clean water requires less chemical input than does treating dirty water.

Second, sanitizing chemicals such as chlorine or ozone are highly corrosive. When they're added upstream of the equipment, they are more likely to damage metal components, particularly the copper heat exchangers in most types of heaters. This is one reason why placing chlorine tablets in skimmers – a common practice in the absence of a more advanced feeding system of the sort discussed in the accompanying article – is *not* a good idea.

– J.F.

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ozone (O_3) as a sanitizing option has gained popularity in the past few decades, particularly in treatment of high-use pools. It is essentially an unstable form of oxygen that is generated by two basic technologies – one using corona discharge, the other using ultraviolet light.

Corona-discharge units generate an electrical field that is similar to the activity in lightning: When dried atmospheric oxygen is drawn through the corona-discharge chamber, its molecules are broken down to create ozone that is then injected into the watershape's circulation system. In an *ultraviolet* system, air is exposed to intense UV light, which also has the ability to produce the unstable O_3 molecule.

Pound for pound, ozone is 3,000 times more potent a sanitizer and oxidizer than is chlorine, but it's also less stable and lasts no more than 15 to 30 minutes when dissolved in water in ideal conditions. This means that ozone systems are most effective when run constantly. Corona-discharge systems produce many times the ozone UV systems do, are much more expensive and are well suited to large-scale applications on public pools, for example. For their part, UV systems are most commonly used on small systems such as spas or compact residential pools.

Because ozone is so unstable, watershapes treated with it must also be treated with another sanitizer, the usual choice being chlorine.

w **Copper/silver ions:** As mentioned above, the ancient Romans knew that metal ions helped maintain safe water. It has since been scientifically proved that copper ions will kill and retard the growth of algae, while silver ions will act as a mild bactericide.

Today, various copper/silver-ion systems are used, primarily on swimming pools, to help reduce the "work" performed by mainline sanitizers such as chlorine or bromine. As is the case with ozone systems, these devices cannot be used without the support of a separate sanitizer and oxidizer.

w **Saltwater chlorine generation:** Based on the dynamics of seawater, one of the most proficient technologies developed to date for water sanitization is the saltwater chlorine generator. We all know that ocean water contains salt. What most of us aren't aware of is that the photosynthetic activity of plant life in the ocean generates small electrical charges that interact with the salt in the ocean water to generate trace levels of chlorine, iodine and bromine.

Saltwater chlorine generation works in much the same way: Salt is added to a pool at a concentration of about 3,000 to 4,000 parts per million – about a tenth of the salinity of the ocean. The water then circulates through a chamber that houses a set of electrodes. As current passes across the electrodes, the sodium chloride flowing by is converted to sodium hypochlorite (liquid chlorine). The owner or operator just adds salt from time to time, and the chlorine residual is main-

tained at a relatively constant level.

One of the advantages of this technology is that it provides for constant superchlorination. As water passes by the electrodes, the concentration of chlorine in the small chamber is extremely high – more than sufficient to "shock" the water and oxidize the unwanted chloramines compounds responsible for the familiar "chlorine smell," burning eyes and other bather discomforts.

Saltwater chlorine generators can be combined with ORP meters, thus providing for a remarkable level of control over sanitizer levels.

w **Bromine generators:** The active form of bromine – that is, hypobromous acid – can be generated in very much the same way as saltwater systems generate chlorine. The one key difference is that in a bromine generation system, the "salt" is sodium bromide rather than sodium chloride.

Largely because of bromine's susceptibility to UV degradation when exposed to sunlight, bromine generators have primarily been used with portable spas, which remain covered most of the time, or for applications with indoor pools and other interior watershapes.

CHEMISTRY STANDARDS

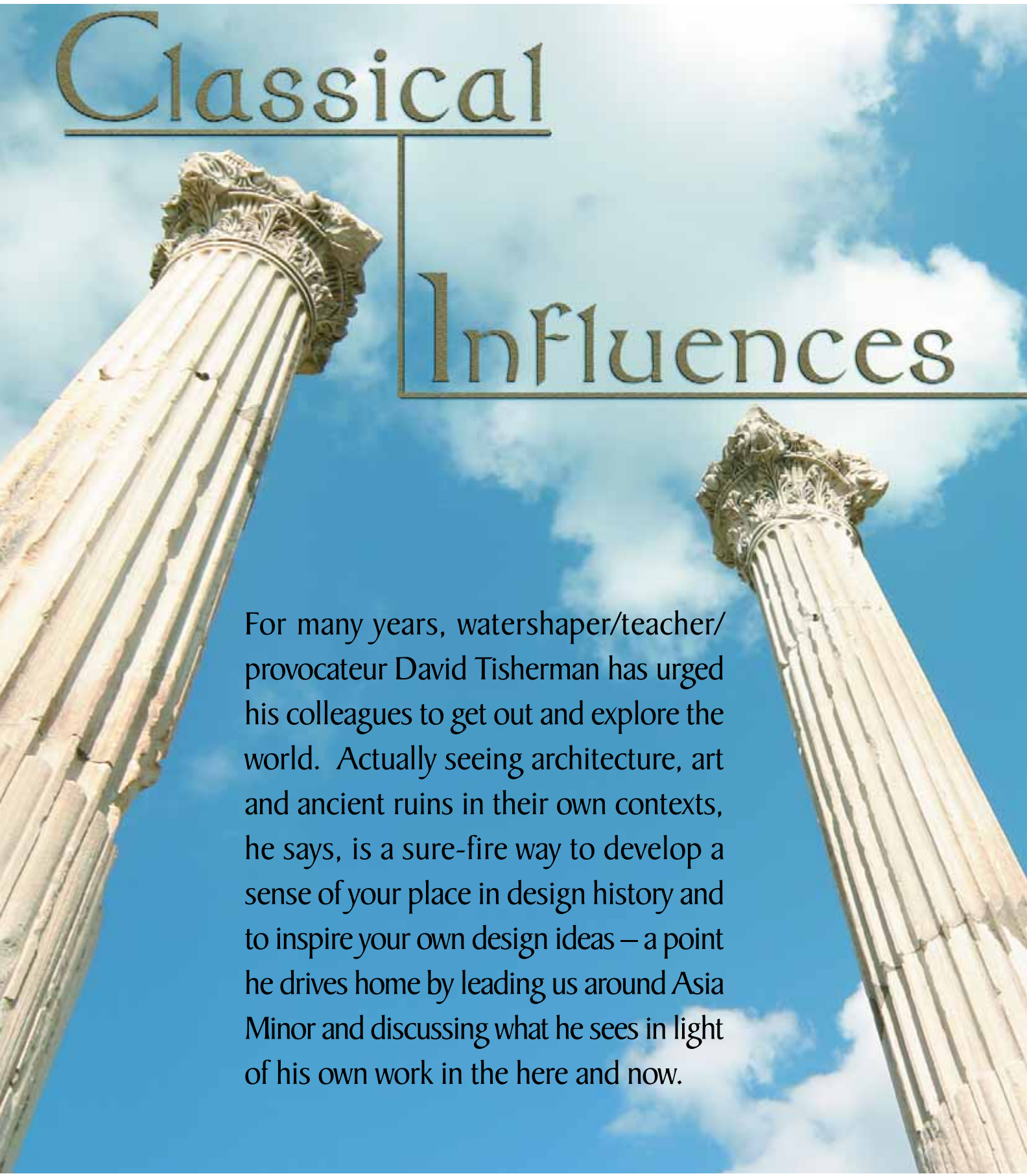
The application of any of the technologies listed above is influenced by standards issued by state and local health departments, the Centers for Disease Control and industry associations including the Association of Pool & Spa Professionals (formerly NSPI) and other organizations.

These standards declare that chlorine residuals for residential pools and spas, for example, generally should be maintained between 1 and 3 parts per million. The recommended levels for commercial pools vary a bit more from place to place depending upon the experience and requirements of a given health department, but the common recommended range is a residual from 3 to 5 parts per million. The same organizations also stipulate levels for bromine residuals and other factors including water hardness, pH, total dissolved solids and stabilizer levels.

In all cases, the challenge to the watershape designer is finding a system that will maintain the water within specified limits consistently and over time. Most of the water-treatment systems discussed here came into existence to meet these needs both reliably and efficiently.

It's beyond the scope of this article to delve into the water-chemistry issues that can be involved in the system-selection process; rather, the intention is to help watershapers develop a working familiarity with treatment options and position yourself to make informed and appropriate recommendations to your clients.

A watershape equipped with a suitable chemical-feeding system stands a better-than-average chance of remaining pristine for the long haul. Watershapes for



Classical Influences

For many years, watershaper/teacher/provocateur David Tisherman has urged his colleagues to get out and explore the world. Actually seeing architecture, art and ancient ruins in their own contexts, he says, is a sure-fire way to develop a sense of your place in design history and to inspire your own design ideas – a point he drives home by leading us around Asia Minor and discussing what he sees in light of his own work in the here and now.

By David Tisherman

It's a point I'll probably make to the end of my days: There is no substitute for travel and exploration of the historic world to learn about design.

In my "Details" column in the June 2005 issue of *WaterShapes*, for example, I discussed my recent trip to Turkey and made the point that the ruins and intact structures we examined while there were full of specific details that I and other watershapers use in our work – whether or not we recognize that what we're doing actually derives from ancient original works.

Showing what I mean in the clearest possible terms is what this pictorial article is all about. As you will see, I've included images of my work published in the pages of this magazine through the past six years to show that I really mean what I say about the possibility of translating classic ideas to contemporary uses.

My intention in doing so isn't the arrogance that's usually ascribed to me: I'm not proclaiming myself some spiritual heir to western civilization here. Instead, my motivations are purely practical: I seek to share my sources and show that much of what we do as watershapers is about translating ancient forms to the here and now.

Indeed, the closer you look, the clearer it is that almost *everything* we do as professionals has been influenced by the past in a range of obvious ways.

Cornucopia

Some words of caution: While I encourage everyone active in the watershaping trades to open his or her eyes and take a good look at the wide world of design, I am also familiar with the notion that a little bit of knowledge is a dangerous thing. Taking a drawing or art-history class or visiting the ruins at Ephesus will give you snippets of knowledge, but they will remain no more than snippets without the years of education and experience that separate real designers from hacks.

I've been trained and educated as an industrial designer, and I honed my craft by having professors I respected smack me on the forehead if I misapplied the concepts they sought to impart to me. I've also spent a career since then looking for inspiration in architecture the way the creators of naturalistic streams and ponds go to the woods to study Mother Nature in action.

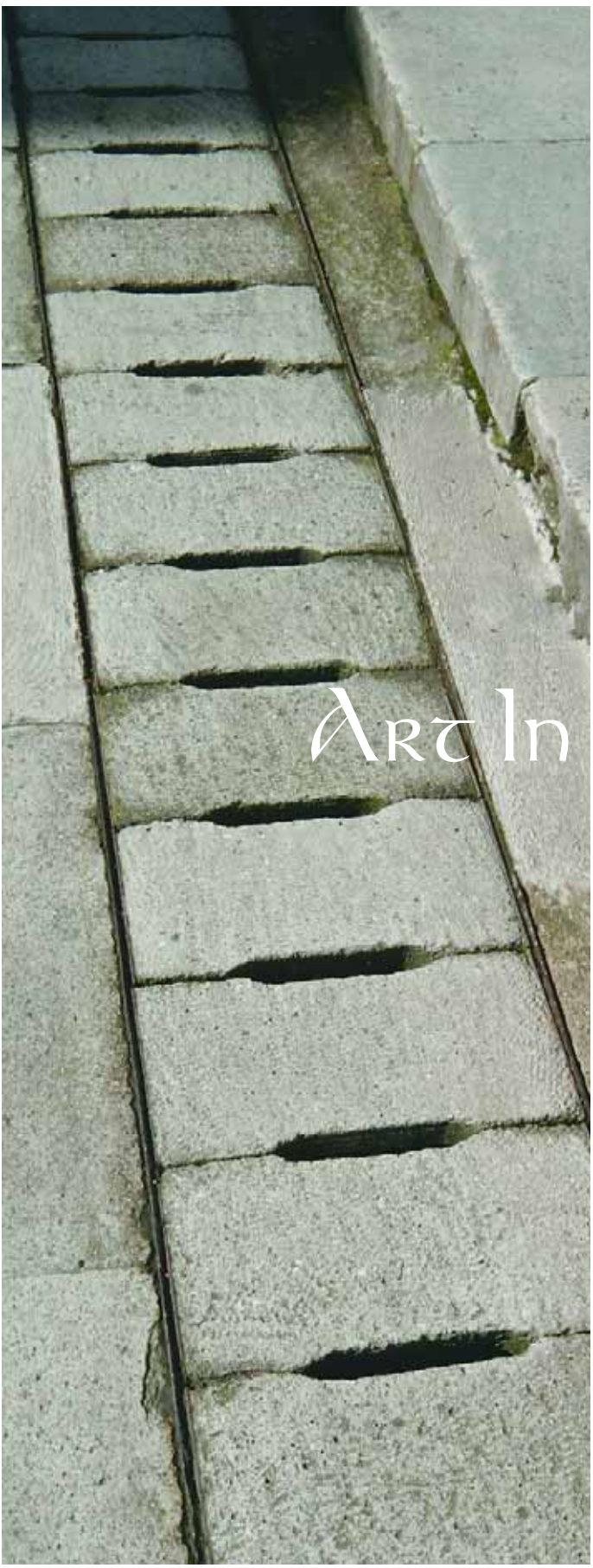
Through my instructors, I've learned that the concept of "appropriateness" is just as important to design success (if not more so) as is proper application of the principles of line, contour, color, contrast, visual weight, balance, scale, spatial relationships and all the rest of the concepts they fed me through the years. In other words, it's not enough to select a cool detail from a Moorish courtyard in Marrakesh and drop it into a project in Milwaukee: The key to using design history as a tool is knowing enough about how the originals work in context to have them make sense in a modern setting wherever it might happen to be.

In a very real sense, design is about *adapting* ideas, not *copying* them. If you've seen and familiarized yourself with a neat little Moorish fountain detail and inserted it into a backyard in Milwaukee just because you can, it's meaningless imitation rather than inspired designing – unless, that is, you've managed to adapt the forms in ways that make sense in the given situation. By extension, having the simple ability to impose a vanishing-edge detail on a pool when the situation doesn't call for one is a design error, not creativity.

Another key point: While it is helpful to get out and see the world, the best way to learn from the experience is to have the discipline either to record or remember what you've seen and file things away in an accessible way. I admire those with photographic memories, but I'm not one of them. As a result, ever since I started traveling umpteen years ago, I've carried a top-quality camera with me and have thousands of slides carefully filed in binders and boxes to prove it.

My Genesis 3 partners Skip Phillips and Brian Van Bower make fun of me endlessly because I'll put them through long slide shows at the drop of a hat when they visit my studio. However silly my collection may seem with respect to sheer volume, I use these slides all the time to remind myself of how certain details looked and worked in context. Quite simply, I see them as an indispensable source of design inspiration.

Finally: There are so many ideas buried in the past that even extensive exploration mainly reveals what we *don't* know. Adding to your personal trove of insights can become a lifetime's work, as it has become for me. I know for my part that each and every time I travel to the treasure troves of antiquity in places like Italy, Turkey, Greece, Spain, Egypt, Japan and China (to name a few), I am inspired by the richness of design traditions found in those places – and utterly humbled by the experience.



Art In The Ordinary

The ancient world abounds in examples of small functions treated in artistic ways, and I've always been particularly struck by the way the ancients celebrated things as simple as the need to move water into drains. In these examples from Sardis to Istanbul, I've found inspiration for my own decisions to use stone to cover drains while not disrupting the clean look of a deck with plastic or metal drain heads. Some of these are so artful, in fact, that mine (as seen in the example below) seem tame by comparison.

The Carousels of Color

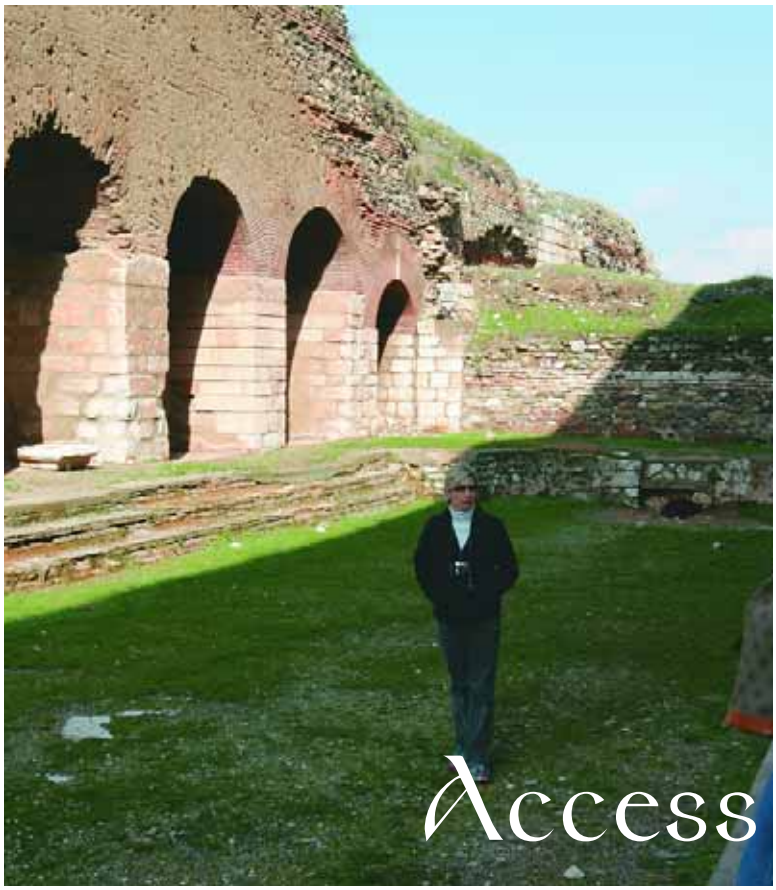
One of the things that has impressed me most in my travels is the apparent willingness of ancient artisans to dig deeply and boldly into the color palette in developing decorative details. In the case of this mosaic floor, for example, the bright reds and pale blues remind me of Oriental carpets and have empowered me to think in much broader terms about the colors available to me in my designs – including, for example, my notorious 'red pool' (below), but a host of others as well.

Studies in Contrast

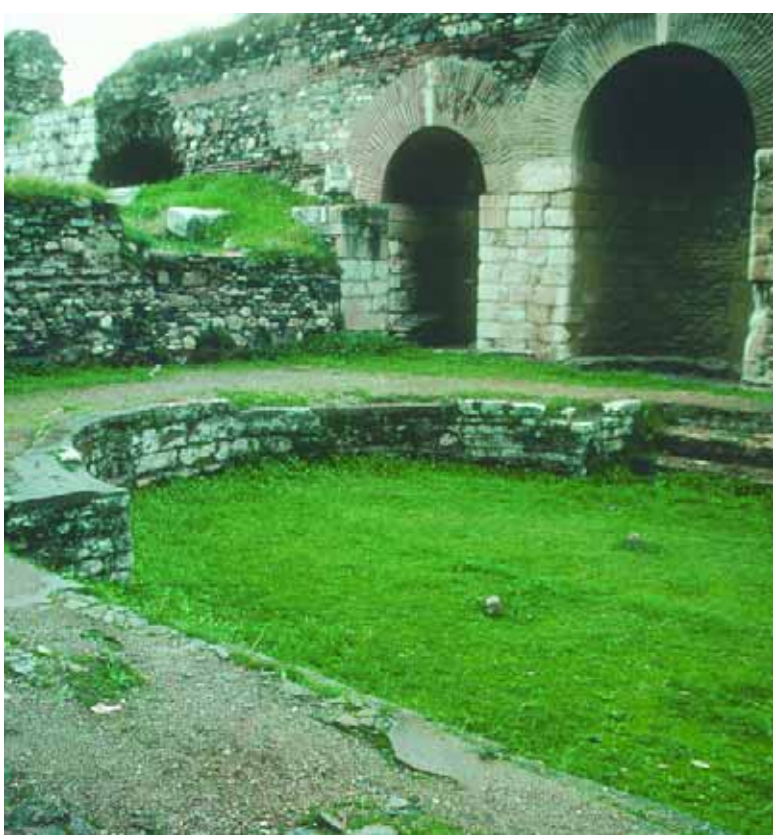
I'm uncertain whether grass was allowed to intrude on these paved areas in ancient times, but I've long admired the way these modern eruptions of green have softened the looks of expanses of stone as I've seen them in my travels – and have applied the concept many times in my own projects (including the one seen below at right). I like the color contrasts and also the texture distinction of setting the softness of grass against the hardness of stone.

Graceful Spouts

Through the years, I've expended lots of energy trying to get watershapers to think about spillways in creative ways, and it all stems from seeing things like these mineral baths in Hieropolis, where ancient designers decided there should be a visually appealing way to move water from the hot springs into the baths. These 'Tishways,' as my friend and fellow traveler 'Pablo' Benedetti has dubbed them, are now one of my signature details (as exemplified just below), and I trace their origins back through centuries of design history.



Access by the Yard



Ever since seeing ancient swimming pools such as this one at the Gymnasium at Sardis, I've been a strong advocate of easing access to the water by running steps or low benches along entire long walls of my own pool designs (including the one below). There's something appealing about the way such arrangements blow out the number of ways bathers can get involved with the water. I also find an appealing elegance that's lost by using the usual small steps in the shallow end and a ladder or two in the deep end.

Raised for Convenience

Another common detail in my pools involves raising the vessel out of the ground by 18 inches or so to provide poolside seating areas and to ease access to the water for those who want to sit down before swinging their legs to the wet side of the wall, as in the Roman baths at Aphrodiasias. Much later, the pool for a sultan's harem in Istanbul (at bottom) was filled with cow and donkey milk as a further enticement I haven't tried, but there's something to the look of these raised pools that goes beyond convenience – a strong presence I've exploited over and over again through the years, as can be seen in one instance just below.

On File

In these cases, I don't have analogous work of my own to set against the images of ancient watershapes – and I'm not certain that I ever will. But these are the sorts of details I record in great and intimate detail while I'm on the road with the thought that, maybe someday, I'll be able to dig into my files and find just the inspiration I need – and remind myself once again that traveling is more than worth the investments of time, money and energy.

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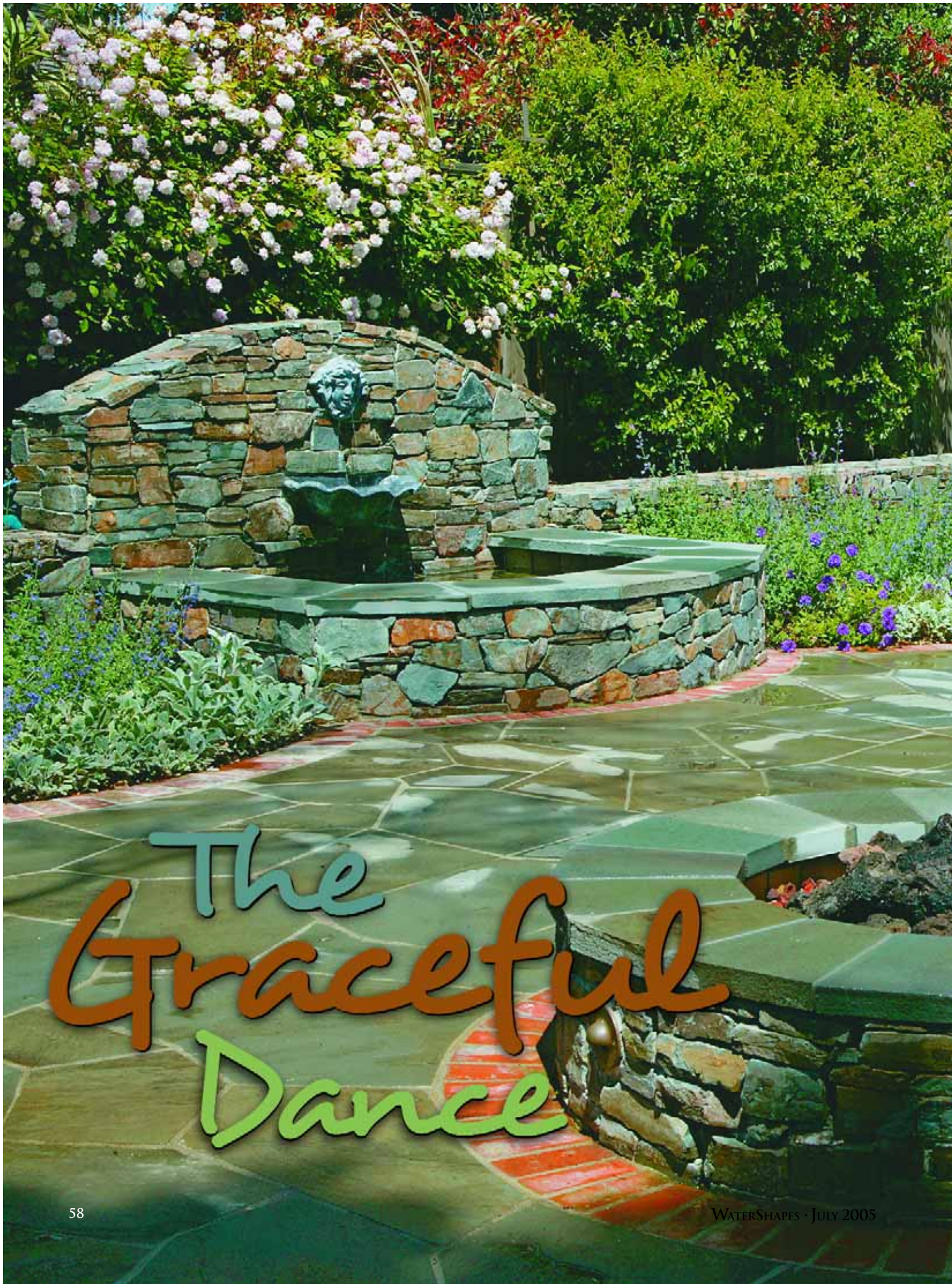

The Graceful Dance

Photo by Gregory Case, San Jose, Calif.

Residential garden and watershape design should be an intensely personal process, says landscape architect and watershaper Michelle Van de Voorde – one keyed to the needs and desires of the client but balanced by the designer's singular passion for composing exterior spaces. To demonstrate how this balance takes shape in her own work, she leads us through the thought processes that distinguish her clients' evocative backyards.

By Michelle Van de Voorde

Successful residential exterior design is akin to a precisely choreographed dance. One sequence of steps defines the relationships among hardscape, water and plants. Other sequences distinguish light and shadow, color and texture, open views and intimate spaces. If the choreographer has done a good job, we don't see the individual steps so much as we enjoy the overall experience of motion.

The key to making these multifarious steps work together? It's all about *balance*.

Transferring these principles to backyard design, there's a similar need for balance in all stages of the design and installation process, starting with the give and take between designer and client. While there are those who believe the designer is all-seeing, all-knowing and all-powerful when it comes to design decisions – yes, our talent and expertise is why we're asked to stop by in the first place – the ego of the designer must always work in harmony and balance with the desires, ideas and ego of the client or the relationship generally won't work.

The reason is that residential projects are unusually personal: We are composing spaces that will be occupied not by us or by occasional guests but instead by our clients, and on a daily basis. They must be happy with our work or we have failed, which makes my goal in the process quite plain: I am there to create environments that are of unquestionable value to the everyday experience of simply *coming home*.

Photos by Gregory Case

Empathetic Design

The seeds of the design begin with me as I sit with clients and discuss ideas, thumb through my portfolio, peruse whatever information they have gathered and talk at length about what they're after.

This approach takes time, of course, but more than that, it facilitates the development of a great deal of buy-in and trust on the part of the clients. That's not always easy, because in many cases I work with clients who have already been led down primrose paths by other designers who weren't so sensitive to their ideas, wants and needs.

To build trust, I constantly focus on looking after the clients' best interests and do all I can to put myself in their place as the design process begins. To be sure, there are times when clients come up with ideas that are completely incongruous with my own and we all need to recognize the necessity of parting ways.

But it's my belief that if you approach

Balance isn't simply about visual weight and spatial relationships: It's also about the human element and the way spaces are arranged to meet the needs of the clients – in this case for an intimate, conversational space near the waterfeature juxtaposed with a comfortable outdoor-dining space at the other end of the yard.

the work with an openness that takes the clients' ideas seriously as you artfully balance all of the elements of the composition I listed in starting this article, then you stand a strong chance of making things come together in engaging and satisfying ways.

Achieving balance is about working in both the purely aesthetic realm and also the utterly practical/technical realm. On the aesthetic side, you encompass evaluation of views from within the home, for example, onto key focal points in the yard. You choose plants and hardscape materials, arrange various design elements within the space and establish lines of sight, basic geometries, colors, contrasts and much more.

On the practical side, you must always have in mind the way things work – lighting, hydraulics, utilities, structures – and define in your mind how all of these components and systems will work together to create something whole and complete. When we achieve this balance on both the aesthetic and practical sides and have done so with client preferences at the heart of the design, I believe the dance comes together and begins in earnest.

Photos by Symantry Marketing, Bellevue, Wash.

The experiential nature of exterior environments comes sharply into play whenever you use traffic patterns to control or moderate access to views. Here, for example, the diverging pathways lead alternatively to a structured, civilized deck and spa – and around the corner to a small, naturalistic pond and waterfall.

Photos by George and Michelle Paganini

Internal Dialogue

As is the case with many designers I know who seek excellence in their work, some of my approach to clients and the tasks at hand is driven by the thoughtlessness too often found in the work of those hired to "design" a backyard space before we arrive on site.

I can't count the number of times I've been confronted by a swimming pool plopped squarely in the middle of a backyard with no consideration at all of how that placement affects the visual dynamics of the space, the ability to move physically from one place to another, the space left for plantings or the views from inside the house. It is plain that nobody ever asked, "How is this all going to work together?" And if any of my predecessors ever *did* ask that question, I can only think they lacked the skill, education and experience needed to come up with an insightful answer.

We see properties where hardscape materials have been selected without any re-

Establishing visual links between landscapes and the homes with which they're associated is a key to establishing harmony and bringing the entire environment together. Here, the shade structures and the white-framed windows do much of the unifying work, but the stone decking softened by intruding grass works easily along with the color of the home's paint. Steps up to various spaces are used as well to define destinations flowing from the back of the house.

Photos by Symantry Marketing

Where designs don't call for substantial use of water, it's possible to suggest its presence through details in the landscape, including curvaceous pathways, rivers of flowers and even (through use of different-colored flowers) streams flowing along rocky courses.

Fluidity

Of all the important potential features of a landscape, water is always going to be one of the most powerful. This is why the placement of a watershape – from a small fountain to a big swimming pool – must always be done with a reason in mind.

Water will always grab attention and therefore can serve various purposes. You can, for example, place a round or octagonal fountain in line with an axial view and draw attention to the symmetry. Or you can place a natural-looking pond off to the side somewhere to beckon the observer to move toward it. Even the smallest watershape can serve as a destination where people will choose to relax, meditate, converse or read.

This sense of water as an attractive force is something that is often discussed, but there's a quality to its power that is simply beyond verbal or written description. All I know is that I'm always thrilled when clients want to have some form of water in their yards because I know that I'll be able to enhance their experiences manifold times.

– M.V.D.V.

lation to the architecture of the house or other elements in the landscape. We see backyards where the patio and barbecue areas have nothing that relates to the design of the watershapes or the home. We see planting plans that don't take into consideration the sizes various plants will reach at maturity as well as schemes that have given no thought at all to the experience someone will have in walking through the space.

Sometimes these problems arise from simple incompetence and the solutions are both obvious and simple. Other times, however, reasonably skilled designers can fall short of achieving balance because the tasks at hand are just too tricky.

For my part, I see all exterior environments as experiential, so I work my way through them largely by way of visualization. I imagine myself looking at and moving through the space as though it were a scene from a movie. As things unfold before my mind's eye, I ask myself key questions: What do I see when I walk out the door or through the gate? How does everything look? How does it feel? What are its textures and colors? How are my eyes drawn into and through the space? Do things unfold gracefully? Will this space provide a sense of tranquility – or one of excitement?

By imaging the experience of moving through the space, I find it easier to design a sense of that motion into the finished product. I consider pathways, des-

Photos by Symantry Marketing

Seating areas are crucial to a landscape's performance as a people-friendly space. Even in relatively plain settings, a remote lounge, bench or chair is a powerful draw – especially if those who take these seats are treated to an especially nice view as a reward for taking a few extra steps.

Horizons

The art of exterior design is generally about what the designer brings to the table, from a grasp on cultural references and an appreciation of various design traditions to a sense of world, art and local history and religions and a practical familiarity with geology, botany and construction technology.

To my mind, you know you're in the right business if the accumulation of these sets of references is second nature. It helps to be hungry for knowledge, to crave travel and always to seek broadened horizons. For my part, I add a love of culture, exotic foods, ethnic art and spiritual traditions to the mix for good measure. And I travel overseas every year to study garden design and the peoples and history of foreign lands.

I do this all partly because it's fun and intellectually stimulating, but I also do it because it helps me understand my clients and present them with expansive sets of possibilities. On virtually every project I do, there is some detail or element derived from my experiences and explorations: You just never know when or where some bit of information you pick up will surface down the line.

The broader your horizons, the more fun and satisfying the work becomes.

– M.V.D.V.

tinations, seating areas, the lines that define transitions between plants and hardscape and water and how everything I see ultimately will flow and work together.

Down to Systems

As I dwell in my visualization of the space, I begin to think in real terms about transferring the picture into an enormously practical reality. This sense of movement is meaningless, in other words, if I'm not also thinking about the placement of steps, the width of pathways, the location of watershapes or works of art, various places to sit and the positioning of entertainment areas.

There are functional elements that are common to a majority of projects, including patio or dining areas, some expanse of lawn, perhaps a secondary seating area with a fire element and, in a great many projects, the presence of some form of water. Just as a building architect lays out a floor plan and considers how people will move from one room to the next, the exterior designer must consider the raw, physical experience of the client moving through the space at every turn and step of the way.

Considering the space from the perspective of this physical experience, we are better able to design exterior spaces that are emotionally evocative. Perhaps the clients will look out their kitchen window in the spring and see a combination of plants that reflects a favorite color palette. Or perhaps they'll hear the sound of moving water coming from a hidden location. Or maybe it will be seeing the reflection of a specimen tree on the surface of a pond, or a hardscape detail that picks up an architectural feature of the home, or a piece of art that has particular meaning for them.

In this sense, good designers are seekers of opportunities. By listening carefully to clients and considering both the potentials and limits of the space and the budget, we can look for ways to weave the elements that emerge through the design process into an all-encompassing composition.

These specific design decisions create linkages within the space and within the clients' minds. Through these links, we are able to balance the elements – and move the dance forward.

Photos by Symantry Marketing

The sense of rewarding those who venture into the outdoors is a key driver in landscape design. A partially hidden source of splashing water, art objects that blend into the background until you're almost upon them, a splash of red leaves amid a sea of green – all of these design elements enhance the observer's experience and sweep them up in the dance.

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Anti-Entrapment Drain Cover

Circle 135 on Reader Service Card

PENTAIR WATER POOL & SPA has introduced the XportDrain System, which provides a combination of cleaning efficiency and anti-entrapment safety protection. The funnel-shaped drain includes a secondary drain that prevents a vacuum from forming if the primary drain is covered or blocked, and the housing has a shape and smoothness that prevents hair entrapment as well. **Pentair Water Pool & Spa**, Sanford, NC.

Landscape Lighting

Circle 136 on Reader Service Card

CAST LIGHTING has published literature on its line of solid-bronze landscape lights. The 44-page, full-color booklet defines the advantages of broze in outdoor applications as an introduction to information on area and path lights, directional bullet fixtures, and well, tree and deck lights before describing design-support services, installation, transformers and technical specifications. **Cast Lighting**, Hawthorne, NJ.

Watergardening Catalog

Circle 137 on Reader Service Card

ROLF C. HAGEN (USA) has published the 2005 catalog on the Laguna line of watergardening products. The 32-page, full-color brochure covers a complete range of indoor/outdoor pumps, waterfall and fountain kits, skimmer filters, underwater filters, biological filters, UV systems, lighting systems, test kits, decorative elements, plant accessories, pond forms, liners and watergarden kits. **Rolf C. Hagen (USA)**, Mansfield, MA.

Ion Purifiers

Circle 138 on Reader Service Card

CAREFREE CLEARWATER offers the Model 1200 series of electrolytic ion generators for water purification in pools, spas and fountains. The systems release copper and silver ions into the water, where they destroy bacteria and algae without affecting water balance. The units can be retrofit or installed with new watershapes and feature larger, more efficient, self-cleaning anode assemblies. **Carefree Clearwater**, Cornelia, GA.

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JUNGLE LABORATORIES manufactures Aquatic Plant Food Tabs. Designed to feed potted pond plants for up to two weeks when inserted into an inch or two of soil, the tablets contain essential nutrition that keeps pond plants vibrant and thriving – and include low-level phosphates to hinder algae blooms. A special formulation limits the potential for toxic buildup of heavy metals. **Jungle Laboratories**, Cibolo, TX.

Sliding-Door Closer

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CLOSE-IT has introduced an automatic closing system for sliding-glass doors. Pressure builds in a piston-like attachment as the door opens, then releases slowly in a controlled glide that closes the door smoothly and gently and latches it at a height convenient for adults but too high for toddlers. Designed to protect children and indoor pets, the system also prevents loss of heat and air conditioning. **Close-It**, Alpharetta, GA.

New Slide Color

Circle 141 on Reader Service Card

S.R. SMITH has added a new sandstone color to its line of Little Dipper slides to meet consumer demand for "back to nature" colors for backyard products. The slide stands just 4 feet, 5 inches tall and requires no plumbing or water hook-up so it can be added to any pool. The product is fabricated entirely in plastic, making it easy to mount on any deck, and only requires 42 inches of water depth. **S.R. Smith**, Canby, OR.

Portable Pool Cleaner

Circle 142 on Reader Service Card

WATER TECH has introduced Pool Buster Max, a rechargeable, battery-powered, self-contained underwater vacuum cleaner. The unit connects to any vacuum pole, cleans without hoses and will work for up to one hour before it needs to be recharged. Designed with pool builders as well as homeowners in mind, the cleaner can be kept in a truck for fast clean ups before leaving the job site. **Water Tech**, East Brunswick, NJ.

Continued on page 72

HOW GOOD DO YOU WANT TO BE?

Pool & Watershape Construction School
October 13-15, 2005

Baltimore, Maryland
Program Cost: $1,950

In keeping with our mission of advancing education on a global level, we are pleased to announce our new Genesis 3 Pool & Watershape Construction School as the latest component in our design-certification program. The new school's curriculum covers plan review, excavation, layout, soil and drainage, steel placement, plumbing, utilities, gunite, tile and coping, decks and drainage, remote controls, automation, plaster and start-up – with top-flight tradespeople, designers and engineers from the industry as instructors. The school will be held in the Inner Harbor on the Baltimore Waterfront. Program cost includes accommodations for three nights, meals and course materials.

Level 1 Design School
October 19-23, 2005

Morro Bay, California
Program Cost: $3,500

Our flagship program focuses on introducing participants to the Genesis 3 philosophy and our practical approach to watershape design and construction. Sessions focus on drawing and presentation techniques, design principles, engineering details, vanishing-edge design and construction, hydraulics, the history of pools and fountains – and much more. Enrollment is limited to ensure personalized instruction, and all courses are taught by recognized industry experts. There's also a lifestyle component to the school, so participants are encouraged to bring a spouse or guest (additional cost: $950). Program cost includes accommodations for four nights, meals and all course materials.

Landscape Lighting Institute
December 10-16, 2005

Scottsdale, Arizona
Program Cost: $4,100

Come spend five days and nights with world-renowned lighting designer Janet Lennox Moyer and associates to learn all about the art of lighting exterior spaces. Structured to familiarize participants with what's needed to develop and achieve a number of lighting effects in their own projects, the intensive program will include technical information and an introduction to lighting-design concepts as well as design workshops and five nights of hands-on exploration of lighting techniques. The school will be held at the exclusive Hyatt Regency Scottsdale Resort & Spa at Gainey Ranch in the Sonoran Desert. Program cost includes accommodations for six nights, meals and course materials.

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Artificial Rockwork

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BACKYARD X-SCAPES offers Sculpture Rock, a glass-fiber reinforced (GFR) artificial rock with the look and feel of real stone for use in commercial and residential applications. The comprehensive line includes boulders, rockscapes, stepping stones, freestanding waterfalls and fountains, pool-edge waterfalls, benches, outdoor furnishings, accent items, garden statuary and more. **Backyard X-Scapes**, San Diego, CA.

Water Product Catalog

Circle 144 on Reader Service Card

OREQ CORP. has published a catalog on its water-related products. The 36-page, full-color brochure covers Custom Cascades' complete line of waterfalls, rain falls, weirs, arc falls, spillways, specialty falls, fountains and bronze statuary; Xcalibur's maintenance tools; a range of water-treatment products; and the Ziffun line of aquatic sports equipment, including baseketball and volleyball systems. **Oreq Corp.**, Temecula, CA.

Air-Purifying System

Circle 145 on Reader Service Card

DECTRON has introduced the Chloraguard indoor air-purification system to remove chloramines and other airborne contaminants commonly found in indoor pool spaces. The gas-phase purification module can be installed in line with any dehumidifier and reduces the potential for chloramine-related breathing problems as well as corrosion and odors commonly associated with indoor pools. **Dectron**, Roswell, GA.

Filter-Sand Alternative

Circle 146 on Reader Service Card

ZEO, INC. offers literature on ZeoSand, a replacement for filter sand. The pamphlet describes the material's honeycomb structure, which gives it a huge surface area and greater trapping capacity than common filter sand and allows it to remove contaminants as small as 1 micron in size. The material also traps ammonium ions to help control chloramines – something filter sand does not do. **Zeo, Inc.**, McKinney, TX.

Pond/Fountain Vacuum

Circle 147 on Reader Service Card

ODYSSEY SYSTEMS has introduced Muck Vac, a tool for vacuuming ponds and fountains. Powered by the flow of water from a garden hose, the cleaner won't cause turbidity problems because muck, dirt and fish waste are cleared to waste outside the vessel. It operates at just 50 psi and comes complete with a power head, telescoping pole, waste hose, vacuum head and brush. **Odyssey Systems**, San Clemente, CA.

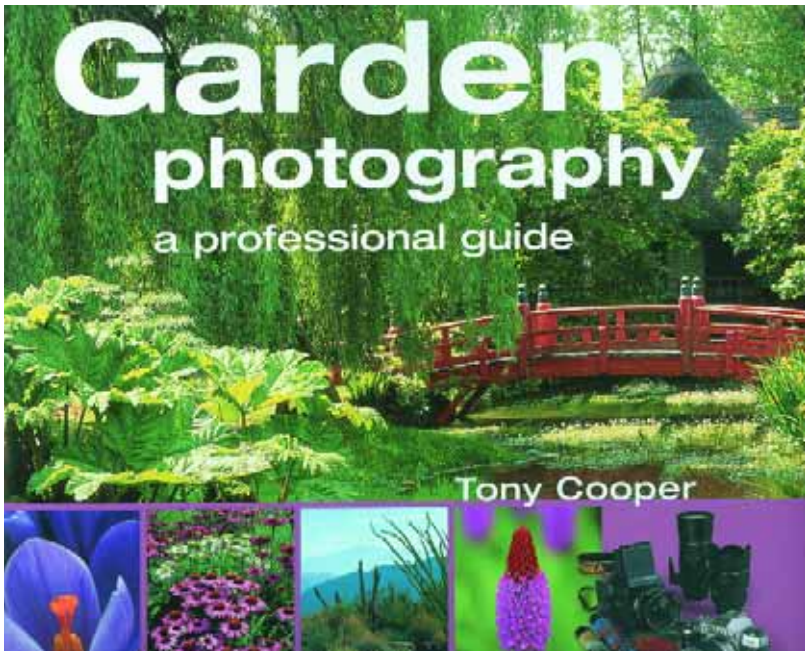
Compacting Roller

Circle 148 on Reader Service Card

MULTIQUIP offers the Rammax P33/24FCR trench roller, which gives operators complete control with a hand-held remote control. Designed for any large-scale soil-compaction task, the unit produces 15,652 pounds of impact force and is available with either 24- or 33-inch drum configurations. With vibration, the unit can operate on slopes with a 45-percent grade; without vibration, 55 percent. **Multiquip**, Carson, CA.

By Mike Farley

Picture Perfect



It's unfortunate, but all too often watershapers and landscape professionals go to extraordinary lengths in designing and building beautiful spaces – then don't take care of business when it comes to capturing those spaces with quality photographs.

This is true despite the fact that photography is hugely important to so many of us, if only to give us a worthy photographic record of our work to use in marketing and selling future projects.

These images make up our portfolios, dress up our offices and showrooms and serve as highlights of our brochures, direct-mail pieces and web sites. They help us win awards and occasionally get us ready for submission of articles for publication in magazines such as *WaterShapes*. Yet for all that utility, photography too often comes as an afterthought.

There are two ways to obtain these representative photos of our work: We either take them ourselves or hire a professional. Not being much with a camera myself, I've always gone to the expense of bringing in a real photographer. Through the years, however, I've found that, even then, it's still necessary for me to communicate clearly with a photographer to define what I'm after.

This give-and-take requires me to have at least a basic understanding of picture taking – or I'll run the risk of paying significant sums of money for images that won't show the work the way I'd like it to be seen. In that respect, the do-it-yourself option has real advantages, but if that's your approach, it's self-evident that you need know your way around a camera.

In other words, no matter which way you go, capturing exterior spaces in pictures means taking photography seriously. To help on this front, I highly recommend picking up a copy of *Garden Photography: A Professional Guide* by Tony Cooper (Photographic Institute Press, 2004). As one might expect, the 156-page text is filled with terrific landscape images and information about how they were achieved.

I found Cooper's approach to the subject particularly helpful because the level of technical information he offers goes well beyond the basics without becoming so advanced that it's difficult to understand.

The first of the book's two sections covers techniques and equipment, with in-depth discussions of cameras, film, formats, exposures, lenses, filters, tripods and light meters. (Helpfully, he goes into detail on digital photography, which he endorses as a viable alternative to the traditional technology.) He also offers useful tips on the basics of photographic composition and ways of taking advantage of depth of field.

The second section covers the specific challenge of landscape photography, including approaches to taking portraits of specimen plants, structures and garden ornaments as well as water (although in a limited way). He offers case studies, too, in which similar images are described in terms of the different techniques used to capture them. There's also a comprehensive bibliography that identifies additional resources.

One of the book's strengths is that it provides useful information both to photographers and to those who hire them through its discussions of scores of compelling examples. To my way of thinking, this is terribly important stuff: If we're going to go to all the trouble of creating works of art, we owe it to ourselves to record those projects in images that truly step up to the level of our best efforts. WS

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