Building Stone MAGAZINE

A Publication of Building Stone Institute | Fall 2008 Volume 31, Number 3

2008 BSI BYBEE PRIZE

2008 BSI TUCKER DESIGN AWARDS

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Fall 2008

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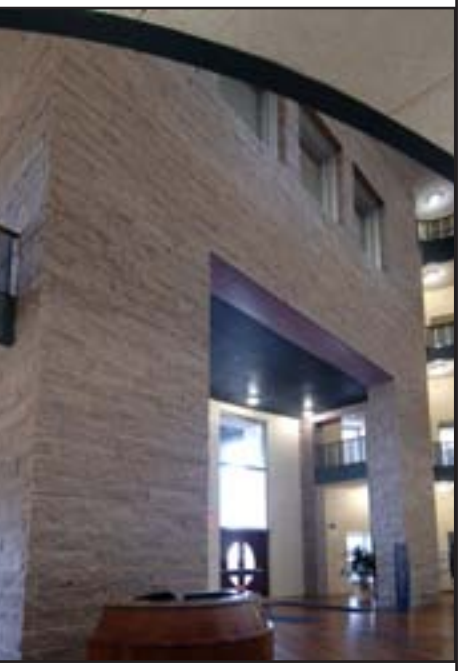

On the Cover:

West Texas Hadrian limestone is the primary material used on the 2008 BSI Tucker Design Award-winning George A. Purefoy Municipal Center in Frisco, Texas. The winning project team features Building Stone Institute members Holzman Moss Architecture, Dee Brown Inc., Cold Spring Granite and TexaStone Quarries.

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INNOVATIONS IN STONE

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Tucker Design Awards Honor Excellence in Natural Stone

SINCE 1919, THE BUILDING STONE INSTITUTE (BSI) has provided support to those in the natural stone industry.

Our membership is comprised of companies and individuals representing all areas of the natural stone industry including quarriers, fabricators, installers, distributors, importers, exporters, service and equipment providers and design professionals.

BSI's mission is to provide and unite this international institute of companies, organizations and others for the purpose of advancing all aspects of the natural stone industry. To that end, in 1977 the BSI established the Tucker Design Awards, named in honor of Beverly R. Tucker, a past president of the BSI.

Recognized as the stone industry's most prestigious award, the Tucker is highly respected by the design/build community. It provides the opportunity to honor those who have contributed significantly to the world's architecture. This issue celebrates the 2008 Tucker Design Award winners. This year's recipients were honored during our awards ceremony held in May at the Fairmont Hotel in Dallas, Texas.

Architects, landscape architects, interior designers and others who feel their work has achieved design excellence in the use and incorporation of natural stone are encouraged to enter the competition, which is held biennially. Completed projects located anywhere in the world are eligible.

The Tucker Design Awards are awarded to honor excellence in the concept, design and construction of projects that utilize natural stone including residential, commercial and institutional structures; landscapes; interiors; and restoration. Memorials, landscape elements and fountains are also eligible.

Detailed entry guidelines and a *Call to Entry* form for the 2010 awards will be posted on the BSI Web site: www.buildingstoneinstitute.org. The jury will make their selection in December 2009, and the awards are presented at a gala event the following spring.

Also in this issue is BSI's tribute to the internationally acclaimed Henry N. Cobb, FAIA, recipient of the 2008 BSI Bybee Prize. Named in honor of late James Daniel Bybee, a long standing BSI member and former Board president, the prize is awarded to an individual architect or landscape architect for a body of work executed over time and distinguished by outstanding design and the use of natural stone.

We hope that you enjoy this issue of *Building Stone Magazine* and that you consider submitting an entry for the 2010 Tucker Design Awards. ◆

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2008 President, Building Stone Institute
Barden Stone Inc.
Memphis, Tenn.

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BSI Tucker Design Awards Reception

Photos courtesy Carpe Vita Photography, Grapevine, Texas

The Building Stone Institute (BSI) held the biennial Tucker Design Awards reception at The Fairmont in Dallas in May. BSI members, sponsors, jurors, award winners – including BSI Bybee Prize winner Henry N. Cobb – and others attended the celebration.

The Tucker Design Awards were first presented in 1977. Named in honor of the late Beverly R. Tucker Jr., a BSI past president, the awards honor firms that exhibit excellence in the concept, design and construction using natural stone.

Congratulations to the 2008 winners!

PHOTO 1: **Back row:** Justin Hall, Lee Lewis Construction Company, Dallas; Quade Weaver, TexaStone Quarries, Garden City, Texas; Floyd Slavens Jr., Dee Brown Inc., Dallas; Mike Morgan, Lee Lewis Construction, Dallas; Tracy Webster, Dee Brown Inc., Dallas **Middle Row:** 2008 Tucker Design Award Jurors Randy Gideon, Gideon Toal, Fort Worth, Texas; and Lance Melton, Wiginton Hooker Jeffry, Dallas; Brenda Edwards, TexaStone Quarries, Garden City, Texas: Robert Barnes Jr., Dee Brown Inc., Dallas **Front Row:** Malcolm Holzman, Holzman Moss Architecture, New York; George Purefoy, City Manager's Office, George A. Purefoy Municipal Center, Dallas; Robert Barnes III, Dee Brown Inc., Dallas.

PHOTO 2: 2008 Tucker Design Award Jurors Randy Gideon, Gideon Toal, Fort Worth, Texas; and Lance Melton, Wiginton Hooker Jeffry, Dallas, present award to Stephen Noon, AIA, Michael Van Valkenburgh Associates Inc. Also pictured: Buzz Dolph, Ithaca Stone Setting Inc., Ithaca, N.Y.; Bill Mirth, Tompkins Bluestone; Lance and Joe Dellacroce, Connecticut Stone Supplies Inc.

PHOTO 3: 2008 Tucker Design Award Jurors Randy Gideon, Gideon Toal, Fort Worth, Texas; and Lance Melton, Wiginton Hooker Jeffry, Dallas, present award to Richard Maimon, KieranTimberlake Associates LLP, Philadelphia, Pa.

PHOTO 4: 2008 Tucker Design Award Jurors Randy Gideon, Gideon Toal, Fort Worth, Texas; and Lance Melton, Wiginton Hooker Jeffry, Dallas, present award to Martin Mosko, Marpa Design Studio, Boulder, Colo.

PHOTO 5: 2008 Tucker Design Award Jurors Randy Gideon, Gideon Toal, Fort Worth, Texas; and Lance Melton, Wiginton Hooker Jeffry, Dallas, present award to Michael Graham and Erica Weeder, Liederbach & Graham Architects. Also pictured: Tom Van Etten, Galloy + Van Etten Inc.; and Lance and Joe Dellacroce, Connecticut Stone Supplies Inc.

PHOTO 6: 2008 Tucker Design Award Jurors Randy Gideon, Gideon Toal, Fort Worth, Texas; and Lance Melton, Wiginton Hooker Jeffry, Dallas, present award to recipient Henry Tom, Line and Space LLC, Tucson, Ariz.

PHOTO 7: 2008 Tucker Design Award Jurors Randy Gideon, Gideon Toal, Fort Worth, Texas; and Lance Melton, Wiginton Hooker Jeffry, Dallas, present award to recipient Jeffrey Jones, Bohlin Cywinski Jackson, Wilkes-Barre, Pa.

PHOTO 8: 2008 Tucker Design Award Jurors Randy Gideon, Gideon Toal, Fort Worth, Texas; and Lance Melton, Wiginton Hooker Jeffry, Dallas, present award to Peter O'Shea, Siteworks, Charlottesville, Va.

PHOTO 9: 2008 Tucker Design Award Jurors Randy Gideon, Gideon Toal, Fort Worth, Texas; and Lance Melton, Wiginton Hooker Jeffry, Dallas, present award to Sergei Bischak, AIA, Bohlin Cywinski Jackson, Seattle, Wash.

Tucker Design Award Jurors

Randall C. Gideon, FAIA
Co-Chairman and CEO, Gideon Toal

With more than 30 years of experience in design and project management, Randy Gideon, a founding principal of Gideon Toal, provides project oversight for architecture, master planning and interior design projects.

An award-winning architect, Gideon was elected to the College of Fellows of the American Institute of Architects in 1999. A graduate of the University of Texas at Arlington, Gideon is a past president of the Texas Society of Architects as well as a past president of the Fort Worth Chapter of the American Institute of Architects.

Lance Melton, AIA
Vice President, Wiginton Hooker Jeffry, Architects, PC

Lance Melton has served as architect, designer, planner and project manager on project types including residential, religious and commercial with a focus on municipal/government projects.

Melton received his bachelor of architecture from Texas Tech University and is a registered architect in the state of Texas. His professional affiliations include American Institute of Architects and Texas Recreation and Parks Society (TRAPS).

With offices in Dallas, Austin and Houston, WHJ – where Melton is a vice president – has provided architectural services for more than 30 years.

Photo courtesy of Pei Cobb Freed & Partners Architects LLC

HENRY N. COBB

Fulfillment in Practice

By Mark Haverstock

GETTING TO KNOW A LEGENDARY ARCHITECT WHOSE HISTORIC WORKS SHOW CONCERN FOR "NOT JUST HOW A BUILDING MEETS THE SKY BUT HOW IT MEETS THE GROUND."

– HENRY N. COBB

INTERNATIONALLY ACCLAIMED ARCHITECT HENRY N. COBB, FAIA, is the recipient of the 2008 BSI Bybee Prize. One of the three founding principals of Pei Cobb Freed Partners, he has actively and continuously contributed to the firm's extraordinary design work since its formation. During his career, spanning nearly six decades, he has served as the principal design partner on more than three dozen major commissions, either completed or underway in the United States, Europe, Asia and Australia.

At the 2008 Tucker Design Awards ceremony in May, architect Malcolm Holzman, the first BSI Bybee Prize winner, introduced Cobb by reading from a recent piece written by Hilary Mantel. The essay ended with Mantel asking her husband, a geologist, to identify the material of a treasured icon. To do so, he tasted the icon and announced that it was slate by saying, "I can taste the clay." Holzman drew a comparison by indicating that Cobb could taste the clay. "In fact," Holzman said, "he has perfect taste in a selection of materials that ranges from glass and metal to natural stone."

Situation Architecture

When it comes to design, Cobb isn't inclined toward theory. "My work is not shaped by ideology or particular theoretical principles," he explains. "My work is more shaped by my concern about the particularities of program and place." By program, he means what purpose a building is serving – and that means more than just functional program. It also means how an institution, be it a corporation, museum or university, should represent itself in the world through architecture. He interprets program broadly in that sense – it's not just about functional program, it's about the intentions of the institution that's being housed.

His definition of place incorporates the particular physical context of the building. "Again, that includes a concern about the precise circumstances of the context and the more general circumstances of the place – the city and the culture in which the building is being built," Cobb says. "So I would describe myself as being a situationist."

Legacy in Stone

For Cobb, the real pleasure of natural stone is derived from its solidity and thickness. "Some of my favorite stone buildings are from Greece, from Ancient Greek architecture to Romanesque to the Renaissance," he says, pointing out that these works are powerful because they combine the extraordinary richness of natural stone with human imagination. "Up until modern times, stone was used as a solid material – block on block."

Cobb notes there is very little opportunity to do that today. You'll only find a very few examples of where he's been able to use stone as a solid block. "Generally this is not on the exterior but rather in the interior details like in the Boston Federal Courthouse," he says. "Stone is a material for stairways and stair rails where one has an opportunity to use stone as a solid that can be carved."

During Cobb's lifetime as an architect, the use of stone has been substantially revolutionized by the changes in technology of stone fabrication. New methods were developed that allow stone to be sliced into thicknesses of about two inches or less. This modern attitude toward stone is something that he resisted early on in his professional life. However, most of the buildings that he has designed in recent years utilize

Henry N. Cobb's Design Legacy

Major built works for which Henry Cobb has been principally responsible as design partner include: Royal Bank of Canada Building at Place Ville Marie, Montreal (1962); Academic Campus of the State University College at Fredonia, New York (1968); John Hancock Tower, Boston (1976); World Trade Center, Baltimore (1977); Collins Place, Melbourne, Australia (1978); 16th Street Transitway Mall, Denver (1982); Johnson & Johnson World Headquarters, New Brunswick, New Jersey (1983); Mobil Research Laboratory, Farmers Branch, Texas (1983); Arco Tower, Dallas (1983); Portland (Maine) Museum of Art (1983); Pitney-Bowes World Headquarters, Stamford, Connecticut (1985); Fountain Place, Dallas (1986); Columbia Square, Washington (1986); Commerce Square, Philadelphia (1987); U.S. Bank Tower (formerly Library Tower), Los Angeles (1989); Headquarters of Credit Suisse First Boston at Canary Wharf, London (1992); Anderson Graduate School of Management at the University of California, Los Angeles (1995); Headquarters of the American Association for the Advancement of Science, Washington (1997); John Joseph Moakley United States Courthouse and Harborpark, Boston (1998); Head Office of ABN AMRO Bank, Amsterdam (1999); China Europe International Business School, Shanghai (1999); POS Plaza, Shanghai (1999); and the College-Conservatory of Music at the University of Cincinnati (2000).

Recently completed works include: Friend Center for Engineering Education at Princeton University (2001); 2099 Pennsylvania Avenue, Washington (2001); Tour EDF at La Défense, Paris (2002); United States Courthouse, Hammond, Indiana (2002); World Trade Center and Grand Marina Hotel, Barcelona (2002); National Constitution Center, Philadelphia (2003); Center for Government and International Studies at Harvard University (2005); Hyatt Center, Chicago (2005); and the International Monetary Fund Headquarters 2, Washington (2005).

Photo courtesy of Carpe Vita Photography, Grapevine, Texas

Photo courtesy of Carpe Vita Photography, Grapevine, Texas

OPPOSITE LEFT: Fredrickstadt Passagen, Berlin, office/retail/apartment complex exterior.

ABOVE: Shown here with Henry N. Cobb (second from left) are (left to right) George Bybee, vice president of Bybee Stone Company and brother of James Daniel Bybee; Bob Barden of Barden Stone and 2008 BSI president; and Devin Bybee. The award is an artistic representation of one of Cobb's more recent works, the staircase at the U.S. Courthouse in Boston. Sculpted by Mike Gomez, a stone carver at St. Louis Stone and Supply, the piece is carved from Indiana limestone as a tribute to the Bybee Stone Company, fabricators of Indiana limestone.

LEFT: Henry N. Cobb delighted the audience at the 2008 BSI Tucker Design Awards ceremony with a retrospective of his work.

Photo courtesy of Pei Cobb Freed & Partners Architects LLC

ABOVE: Fredrickstadt Passagen, Berlin, office/retail/apartment complex exterior at night.

thin stone as a surface material, not a construction material – a kind of cladding hung on a frame.

"Now you can even get stone a quarter of an inch thick that's mounted on an aluminum honeycomb," he says. "That has invited the use of stone as a pure surface material – you can see several examples of that in my work."

Cobb notes that more than 100 of his firm's built works incorporate a significant amount of natural stone. "It is especially gratifying to us that three of our buildings have received the IMMC/AIA Marble Architectural Award and nine have received the Building Stone Institute's Tucker Design Award."

National Constitution Center

One recent example of this stone clad construction from Cobb's portfolio is the National Constitution Center in Philadelphia, which utilizes 2 ½-inch Indiana limestone and 1 ¼-inch Chelmsford granite, both handset on steel frames and concrete. The building serves as a history museum, standing at the northern end of Independence Mall, opposite Independence Hall, where the Constitution was signed in 1787.

The structure's open porch welcomes visitors and presents them with views into the museum and out to the modern city. Transparency is key to this design. It emphasizes the responsiveness and openness essential for freedom and self-government, while the building's diagonal geometry speaks dynamically of the Constitution's capacity to shape – and be shaped – by the society it governs.

A visit to the museum begins in the theater in-the-round, which also serves as a national town hall for televised presidential debates and other significant events. Next, visitors view a series of interactive exhibitions designed to present the Constitution to people of different ages and backgrounds in a way that is individually meaningful. Visitors ultimately emerge into a sky-lit ceremonial hall with the American flag suspended at its center and the flags of the 50 states arranged nearby. Here, looking back across the Mall, the National Constitution Center visually connects with Independence Hall, continuing and celebrating our country's story, which began more than two centuries ago.

Urban Carpet

One of Cobb's favorite projects utilizing stone is the 16th Street Transitway Mall located in the center of Denver, Colo. "It's the main shopping street of the town, and the idea was to take this congested, unattractive street and transform it into a pedestrian street with electric shuttle busses," Cobb says. "I like it because it enlivens a public space."

The 80-foot-wide mall uses paving, lighting and planting to define the three zones of activity along this nearly one-mile long corridor. First is a 22-foot-wide central promenade with trees that shade without blocking visibility or access to shopping areas. This pedestrian area is flanked by 10-foot-wide bus paths and expanded 19-foot sidewalks. Specially designed lanterns light the mall for dusk, night and after-hours security.

This space incorporates landscaping and street furniture, but the main component is 7.8 acres of rich-patterned granite – pavers of charcoal gray, light gray and Colorado red that articulate the zones in a rattlesnake-like pattern. "The idea of the stone paving there was to create an engaging surface to walk on – a kind of urban carpet," he says. "It's using stone to create an ornamental

How It All Started

Cobb was born in 1926 in Boston, Mass. He was educated at Phillips Exeter Academy, Harvard College (1947) and the Harvard Graduate School of Design (1949). He has received honorary degrees from Bowdoin College Doctor of Fine Arts (1985) and the Swiss Federal Institute of Technology Doctor Honoris Causa in Technical Sciences (1990). Cobb served in the U.S. Navy (active duty) from 1944–1946 and in the U.S. Naval Reserve, 1944–1961.

Photo courtesy of Pei Cobb Freed & Partners Architects LLC

surface." Cobb notes that this is an unusual application of stone in the United States – yet is found more commonly in Europe.

Committed to Education

Throughout his career, Cobb has coupled his professional activity with teaching. He has lectured widely and has held the Davenport and Bishop visiting professorships at Yale University. From 1980 to 1985 he served as studio professor of architecture and urban design and chairman of the Department of Architecture at the Harvard Graduate School of Design, where he continues to participate as a visiting lecturer. In 1992 he was Architect in Residence at the American Academy in Rome, which he also served as a trustee from 1972 to 1990.

"I have a commitment to education because architecture, unlike many fields, fulfills itself in practice," Cobb explains. "The research in architecture takes place through practice; research in the sciences takes place in the laboratory. For that reason, I believe it's important to join practice to education." He believes that it is particularly important that practicing architects get involved in teaching, because that can help students make a connection between learning and practice in the real world.

Awards and Honors

Cobb, an internationally acclaimed architect, is a Fellow of the American Institute of Architects; a Member of the American Academy of Arts and Letters; a Fellow of the American Academy of Arts and Sciences;

The BSI Bybee Prize

Named in honor of late James Daniel Bybee, a long standing BSI member and former Board president, the prize is awarded to an individual architect or landscape architect for a body of work executed over time and distinguished by outstanding design and the use of natural stone. Past BSI Bybee Prize winners include architects Cesar Pelli, FAIA; and Malcolm Holzman, FAIA; and landscape architects Paul Frieberg and Lawrence Halprin.

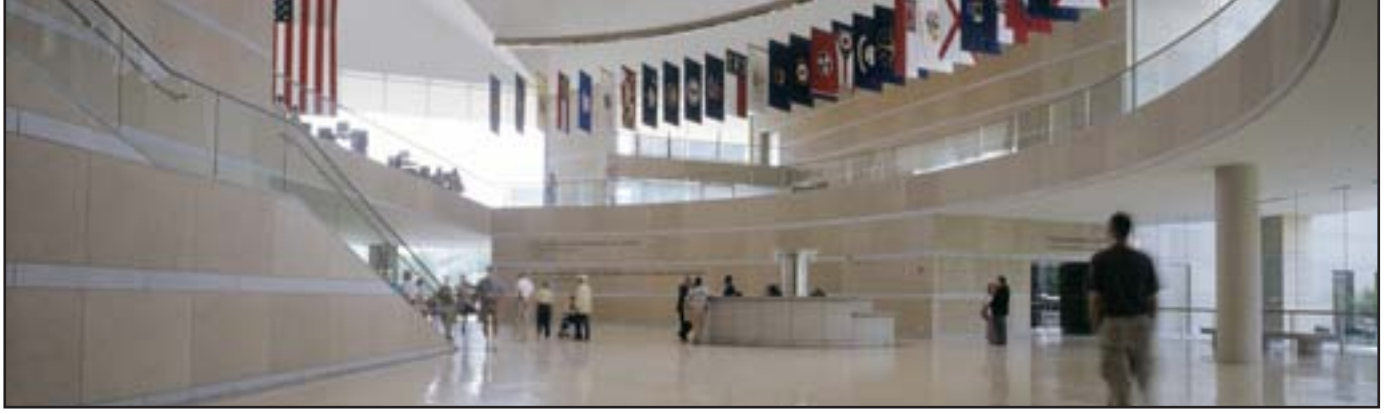


Photo courtesy of Pei Cobb Freed & Partners Architects LLC

OPPOSITE LEFT: ARCO Tower, Dallas, lobby with Herbert Bayer sculpture.

ABOVE: National Constitution Center, Philadelphia, ceremonial hall.

and an Academician of the National Academy of Design.

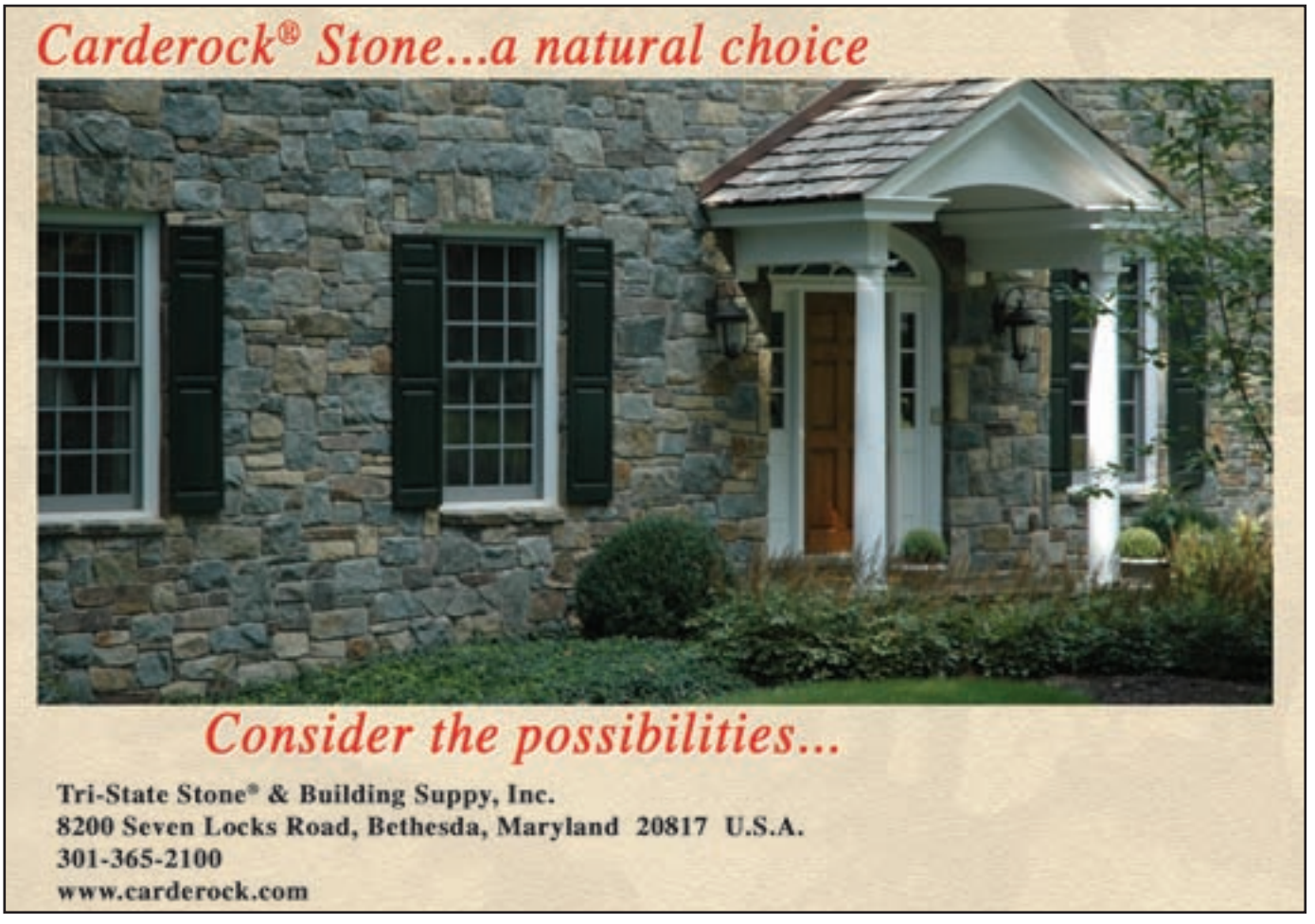
He has received a number of awards recognizing his achievements as both architect and educator: the Arnold W. Brunner Memorial Prize, awarded by the American Academy of Arts and Letters; the Poses Creative Arts Award Medal for Architecture, Brandeis University; the Harleston Parker Medal, Boston Society of Architects; the Medal of Honor, New York Chapter, AIA; the Chicago Architecture Award, Illinois Council, AIA; and the Topaz Medallion for Excellence in Architectural Education, awarded jointly by the Association of Collegiate Schools of Architecture and the American Institute of Architects.

Works in Progress

Cobb continues to contribute to his firm's design work. Current projects include Torre Espacio, Madrid; headquarters expansion of the Organisation for Economic Co-operation and Development, Paris; headquarters of the Federal Reserve Bank of Kansas City; New Seat of the Lombardy Regional Government, Milan; and Butler College Residence Halls, Princeton University. An office tower at 800 West Broadway, San Diego, is scheduled to begin construction in 2008.

"Henry is the quintessential architect's architect. Quiet, unassuming and brimming with talent; his work is impeccable. He represents the pinnacle of the architecture profession," says Harold Roth, FAIA, partner with Roth and Moore Architects in Connecticut. ◆

__Mark Haverstock__ is a freelance writer in Boardman, Ohio. He has published more than 500 magazine articles on a variety of topics.



RIDGE HOUSE

Artful Design Written in Stone

By Gail Snyder

WHAT DO AN AWARD-WINNING RESIDENCE in rural Canada and a remote Swiss village spa have in common? They share a material that is the essence of their design – Valser quartzite, often referred to in North America as Vals stone or Vals quartzite. Quarried from the mountains surrounding the small village of Vals, Switzerland, the stone buttresses one of the town's major industries and is mandated by law as the sole roofing material for every building there. So treasured is this mineral, that only the specialists in Vals are allowed to fabricate the stone before exportation.

Architect Peter Zumthor designed and constructed the Therme Vals spa in Vals (1992-1996), with this native stone as its primary material. The site has since become a Mecca and inspiration for architects around the world.

"It's the best example I can think of where a very unique design drove the success of a project, and frankly, the health of a village," says James Durham, president of Quarra Stone in Madison, Wisc. "The building, having so much stone, serves as a giant showroom where architects, after seeing just a portion of it, can visualize their own designs." Durham's company holds exclusive distribution rights for Vals stone throughout North America.

The serene aesthetics of the spa inspired Peter Bohlin, design principal with Bohlin Cywinski Jackson in Wilkes-Barre, Pa., when he envisioned the unique core of the Ridge House in rural Canada, a residence resonating with the subtle beauty of this centuries-old stone that acts as a natural canvas for light and shadow. "We wanted Ridge House to have a very contemporary look," says Jeffrey L. Jones, project manager for Bohlin Cywinski Jackson. "The problem we ran into right away, however, was that when you use cut stones, some of them look very plain. But the Vals quartzite has a very contemporary tactile quality. We could use variations in size and scale to create special moments throughout the house."

Stretched along a narrow ridge (hence its name), the Ridge House's long dimensions and vast windows allow an almost panoramic view of the surrounding tree-covered acres and the valley below. The two-walled Vals quartzite core of the building offsets the functional areas such as bathrooms, closets and kitchen from the more leisurely living areas.

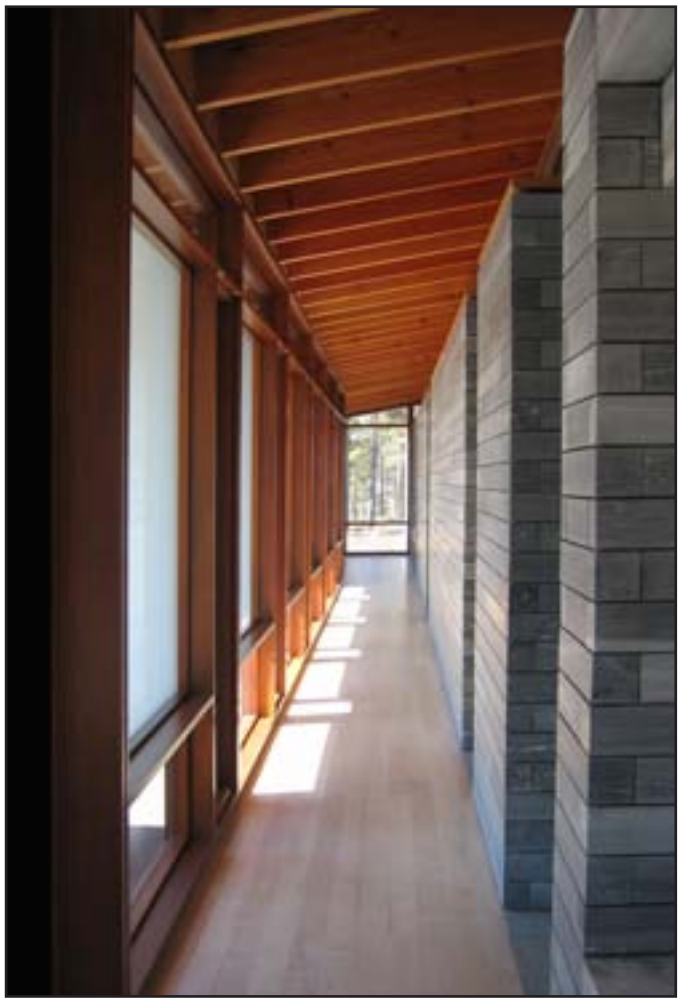
"The stone is a linear bar of two walls that run the distance of the house, and within that zone the floors are also stone, whereas the flooring is maple in the rest of the house," Jones says. "We used the stone to define flow and function." Openings in the core walls provide access to the surrounding living spaces and bedrooms of this approximately 6,000-square-foot home.

The single-slope roof of the dwelling encourages inhabitants toward the large glass panels and the scenery beyond, a view extended by a large wooden deck overlooking the valley below. Jone says the design called for wood since the construction site was sensitive. "Being at the crest of a hill, we were limited as to how far we could extend the deck over the edge," he explains. "We could float out over the crest, but using a material that was light that didn't disturb the site was the only solution."

Just as Zumthor designed Therme Vals to exist "in harmony with the surrounding topography," the architects of Ridge House protected the pristine nature of the landscape. "The entire structure of Ridge House seems as though it just rises from the ground," Durham says.

"The design of the house reflects a desire to give every room a view of the valley. I would say that the linear stone core anchors the house to the ridge and clearly organizes the spaces inside," Jones adds.

The 300 tons of stone used in Ridge House include two massive chimney stacks that accommodate five fireplaces, including several back-to-back. "Vals quartzite has fantastic tensile strength and the long linear construction of Ridge House takes advantage of that," Durham says. "It's very strong in thin sections, but they also used some massive pieces." For example, the fireplace hearth and lintel are formed of large



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Stone Installer
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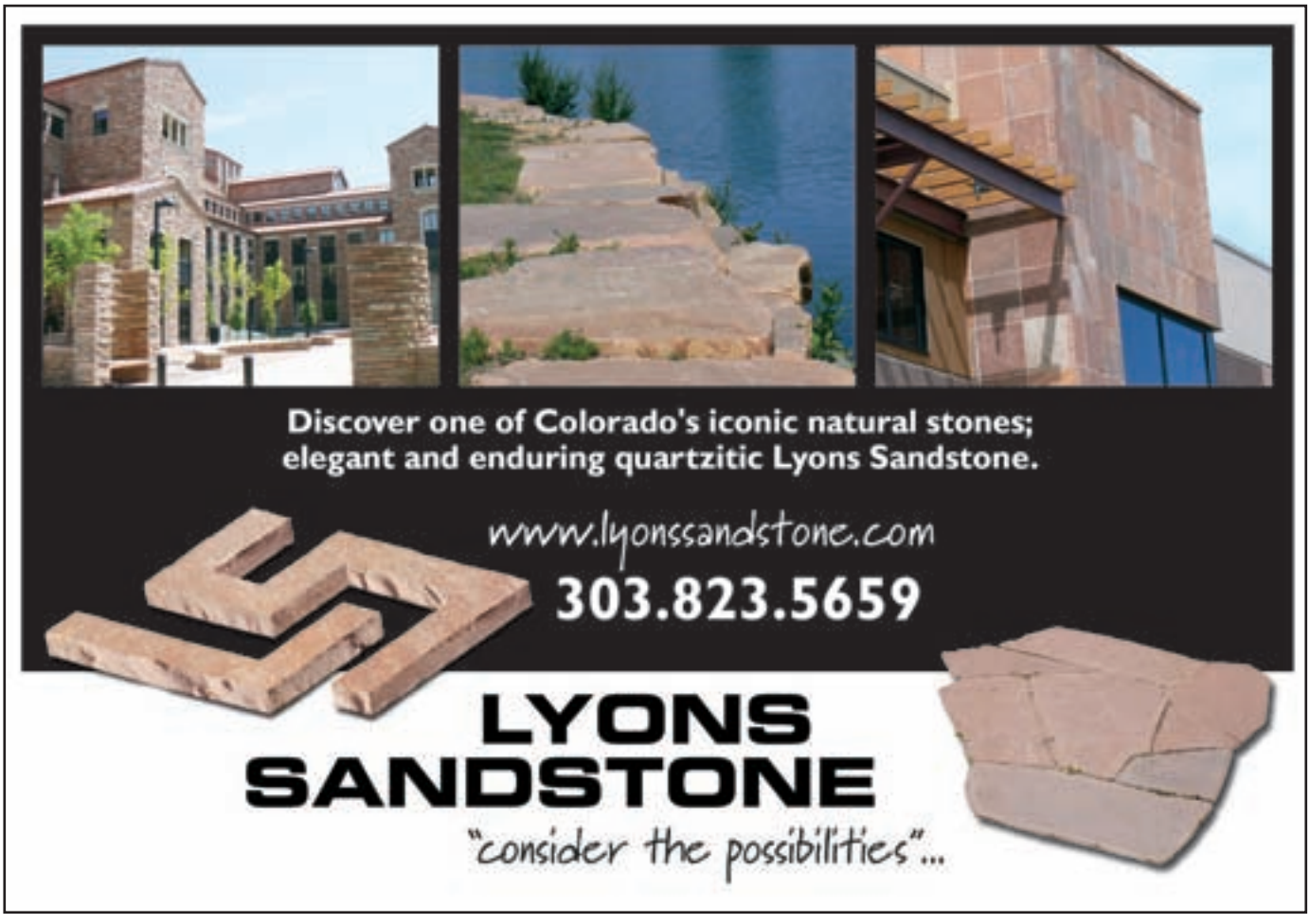
Stone Distributor
Quarra Stone Company LLC, Madison, Wisc.

Stone Quarry
Vals Quartzite, Balma, Vals/Switzerland

blocks of unreinforced Vals quartzite, an artful impact made possible by the stone's flexible strength.

Massive pieces are also used in the three monolithic stone benches strategically placed about the landscape, so large that each bench weighs up to 10 tons. "Terraces and walkways of Vals quartzite choreograph the entry sequence to the home and are used to sensitively stitch the building into the natural landscape," Jones says.



Vals stone, described as a "fine-grained, massive, slated micaceous quartzite," typically presents in thin slabs with bandings of color ranging from green, to blue gray, to whites. This is not a temperamental stone. It is stoically resistant to a range of temperatures and applications such as staircases, flooring, walls, roofing tiles, artisan bowls and artwork.

"Even though we used a cut stone, you can actually see some of the blade marks from the machining, so there is a lot of variation in the stone that is just the right amount both from a distance as well as up close," Jones says. "Much of our work explores the nature of materials, and of how things are built – whether it's wood, steel or stone. The character of this particular stone reveals a rich story of the forces that formed it."

"The architects ensured that every single detail of that house was perfect. The stone in Ridge House is the result of painstaking perfection. It is used so simply, but simplicity is the most difficult thing to achieve," Durham says.

The combination of wood, glass and – as Durham says – "stone being stone" without the additional artifices of manmade decoration has resulted in a striking profile with elegant lines. Ultimately, Ridge House demonstrates the magnificence that can be achieved through restraint. ◆

__Gail Snyder__ is an Atlanta-based freelance writer and editor.

USING STONE TO BLEND OLD AND NEW

Timeless in Tucson

By Nancy Moreland

With the Santa Catalina Mountains as a dramatic backdrop and bustling Tucson, Ariz., in the valley below, the house known as Campbell Cliffs strikes a balance between the ancient and modern worlds. In its timeless desert setting, the remarkable residence blends the time honored beauty of natural stone with contemporary design. Created for a client who desired expansive entertaining areas and personal privacy, this striking home received a 2008 Tucker Design Award.

Evolving Over Time

Designed and built by the Tucson architectural firm, Line and Space LLC, the 31,000-square-foot Campbell Cliffs was seven years in the making. Les Wallach, AIA, served as lead project designer. Bob Clements, AIA, was project architect and construction superintendent. Line and Space Principal Henry Tom, AIA, served on the design team. According to Tom, the design and construction time frames were influenced by the client's wish to preserve the existing landscape of the 20-acre property, which abuts on Coronado National Forest. Clements noted that Line and Space ordered a detailed survey on six of the 20 acres. The survey indicated every cactus, any major vegetation and rock outcroppings.

"We worked within tight construction limits, building from the middle out to the driveways. The house was designed around major stone outcroppings and hardly any (post-construction) re-vegetation was required. The landscape you see now is what was there when we started," Tom explains. During construction, specific trails for laborers were designated to minimize disturbance to the site.

The careful placement of the home in its surroundings takes advantage of the stunning landscape. Situated in bedrock below a shear south mountain face, Campbell Cliffs "grew out of the site . . . it is only about eight feet above the highest part of the site," notes Tom, adding, "We could have worked differently, but that would have destroyed the setting."

Indigenous Inspiration

The client's desire to integrate the house into its environs made stone the perfect material for this project. Campbell Cliffs incorporated 14,000 square feet of Coconino sandstone from Dunbar Stone Company's Ash Fork, Ariz., quarry. Dunbar Stone also maintains a stone yard in Tucson. This facilitated the steady supply of sandstone required for the job. Once the stone was delivered, it was hand carried to specific construction areas to protect the fragile desert landscape. The indigenous sandstone "works with the site visually and blends in with the red stone cliffs above the house," Tom says. The home's use of reddish-brown Coconino sandstone echoes the cliff's coloration.

Essentially, the home is a steel and masonry structure. The three-inch thick sandstone veneer interior and exterior walls are reinforced with ties. Ties are flat galvanized strips of metal that help hold the stone to the masonry.

Aside from its beauty, warmth and permanence, Coconino sandstone was a winner from a design standpoint. What most people first notice about Campbell Cliffs is how naturally it fits into its surroundings, as if it had occupied this space for generations. Natural stone was of paramount importance in achieving this effect.

"We ran stone from the exterior to interior to blur the distinction between those spaces," Tom says. The entry space is a case in point. It is divided from the exterior by glass, but the walls "soar from the inside and outside."

Crafting a Masterpiece

Although Tom describes Campbell Cliffs as a very complex project, the home's stonework didn't present major obstacles. "We use stone whenever appropriate on our projects, so our masons are very familiar with the material," he says. An additional advantage was that Coconino sandstone is relatively easy to work with. Dunbar Stone Company cut, processed and palletized the sandstone to the architect's specifications, but a great deal of onsite fitting was a necessary part of the masonry process.

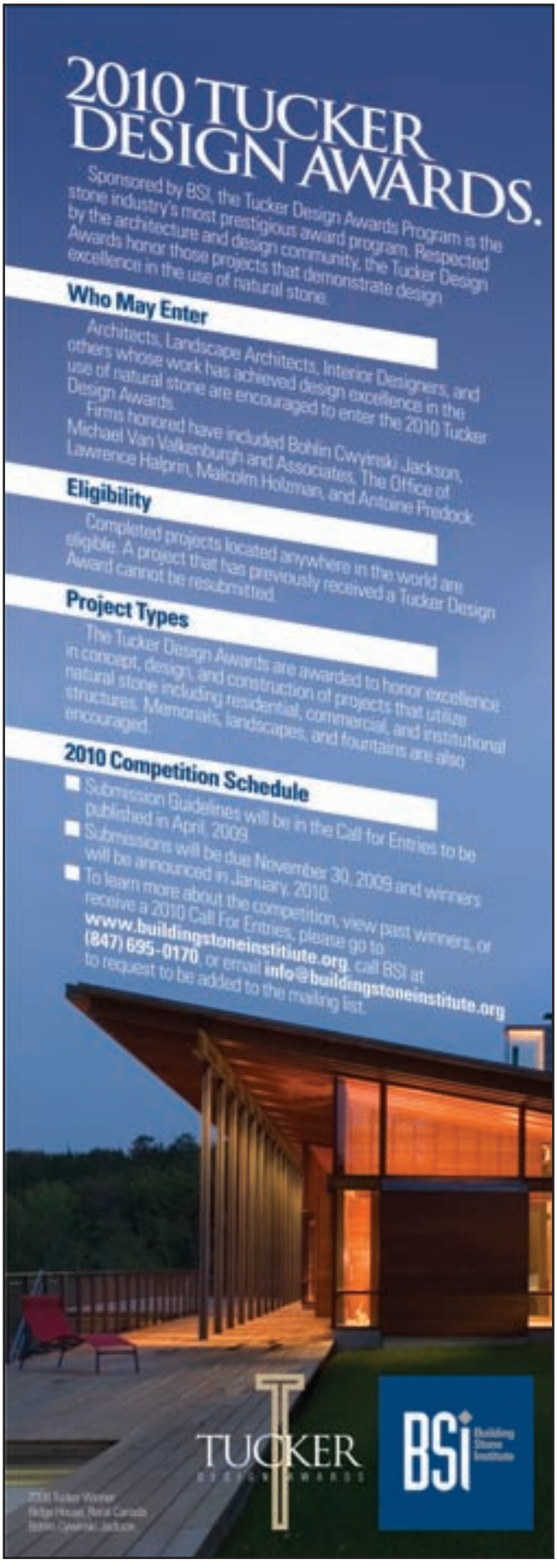
Bob Clements, AIA, explains one challenge of working with sandstone and its resolution. "We had difficulty getting the pattern we wanted, so we took a trip to Dunbar quarries. The interesting thing we learned was the way they quarry this stone – they go into the forest and pick it up off the forest floor. The larger stones were weathered and lichen-

PROJECT TEAM

Designer
Line and Space LLC, Tucson, Ariz.

Stone Installers
Line and Space Construction, LLC
Cuong Tuong, Mason
Tellez Masonry, Tucson, Ariz.

Stone Suppliers
Dunbar Stone Company, Ash Fork, Ariz.



covered. We ended up flipping them over because the bottom surface was flatter and cleaner. Also, we had Dunbar revise the way they were breaking the stone so that the horizontal pieces were flat-faced breaks rather than rounded edges."

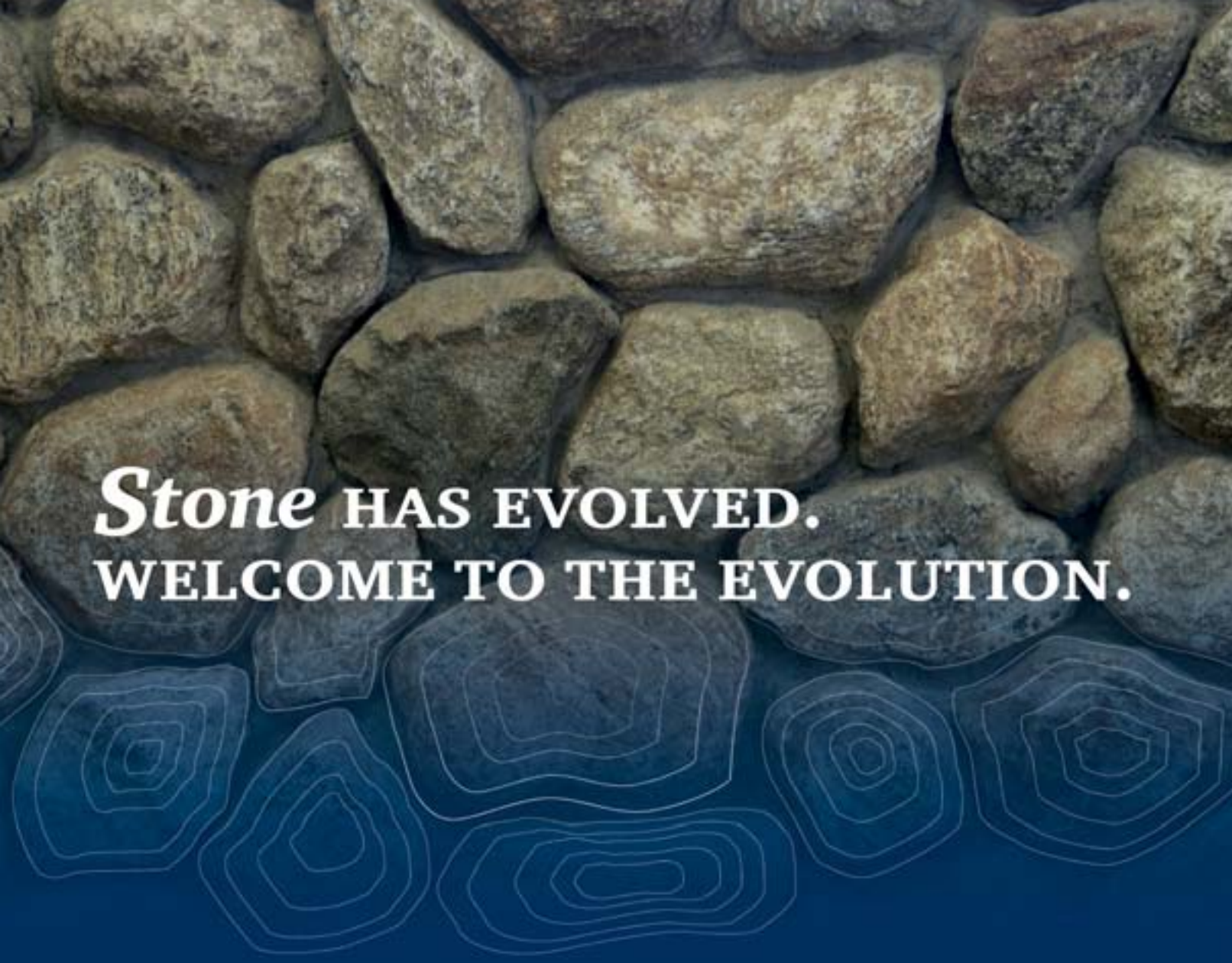
Line and Space master mason Cuong Tuong collaborated with Tellez Masonry on the stone veneer walls, decks and benches. The seamless appearance of the craftsmanship is the result of several factors. At the project's onset, the architects evaluated different sandstone shapes and patterns. They then built a sample wall at the Line and Space office. The masons used that model as a guide during installation, always mindful of balancing Coconino sandstone's color variations. Clements, who oversaw the masons' work, recalls that "keeping track of the pattern and maintaining a consistent pattern required ongoing attention."

"The masons selected and fitted the stone within our tolerances," Tom adds. "Keeping the joints within strict tolerances was key to the stone's monolithic appearance. Uniform joints created a balance between the clean lines of the contemporary work that we do and the stone, which some people view as a rustic material. This approach allowed us to integrate stone into a contemporary design in a way that was complementary."

For Line and Space, working with stone has been a good experience. The company continues to investigate new ways to use stone in its designs. "Stone is a beautiful material that adds warmth and character to a facility and blends the structure into the site," Tom says. While he conceded that working with stone isn't always easy, "It's certainly worth it, once you see what stone can do."

The timeless splendor of Campbell Cliffs stands as an enduring example of what can be accomplished with natural stone, good design and skilled craftsmen. ◆

Nancy Moreland *of ConveyMore Communications writes on a variety of topics. She has long appreciated the Southwest's unique beauty and the enduring quality of natural stone. Nancy may be reached at nmoreland@ConveyMore.com.*



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SHOWCASING STONE'S GRANDEUR AT GLENCOE

To the Manor Born

By Nancy Moreland

PROJECT TEAM

Designer

Liederbach & Graham, Architects
Chicago, Ill.

Stone Installers

Jacks Masonry, Crystal Lake, Ill.
Masonry by Fernando, Rondout, Ill.

Stone Suppliers

Connecticut Stone Supplies, Milford, Conn.
Cleveland Quarries, Amherst, Ohio
Evergreen Slate Company Inc., Granville, N.Y.
Galloy and Van Etten, Chicago, Ill.
Jay Sackett Associates, Skokie, Ill.

WITH HAND CUT LIMESTONE AND GRANITE WALLS, a slate roof and five different chimneys, the Glencoe residence could be mistaken for a venerable English manor. It stands regally, however, 20 miles north of Chicago in the lakeside suburb of Glencoe. Although Heathcliff would feel comfortable among the English Arts and Crafts inspired architecture, the house was built just four years ago in an elegant neighborhood of established homes.

Recipient of a 2008 Tucker Design Award, the Glencoe residence is an anomaly among modern production-style homes. Designed by Michael Graham, Liederbach and Graham, Architects, of Chicago, its story unfolded as gradually as a Victorian novel. During three years of construction, its creators – including Dennis Smalley, Builders and superintendent Stephanie Ruder – experienced the rewards and challenges of using stone in ways that will inspire for generations. The result blends Old World craftsmanship with 21st century technology.

The Vision

Like most love stories, this one began with an attraction. The homeowners' passion for Arts and Crafts architecture took them to England. Along with their design team, they toured houses around the Midlands and Surrey regions. The experience fueled the designers' vision to create a high level of craftsmanship and detail. Stone played an integral role in defining that vision.

Project architect Erica Weeder with Liederbach and Graham, Architects, supervised the daily construction details. "Stone was used for its quality and character," she says. The homeowners, according to Weeder, valued stone's permanence and tactile quality, but their interest was grounded in an appreciation of stone's aesthetics.

Overcoming Challenges

The structure utilized stone in so many architectural elements, it is a testament to what can be accomplished with exceptional materials and craftsmanship. For

the home's exterior, the architects combined coursed pitched-faced granite walls with cut Silverdale limestone trim and window surrounds. Chosen for their resemblance to Cotswold stone and Cumbrian granite, the materials withstand harsh winters.

The exterior walls were arguably the most labor intensive facet of the project. To create a pitched appearance, stone workers cut each piece of granite into a regular shape before rendering the stone face into a convex form. Done by hand, the work took nine months and presented problems. "Sometimes stone splits out with a concave face or edges that are too sharp," Weeder says. Quarried in Kansas, the limestone was cut, then carved and scraped smooth to form precise window surrounds, trim and "shoulder" transition areas for the chimneys. The architects utilized AutoCAD mock-ups and endeavored to control all elements – from mortar color to hand pitching. A heated Quonset hut was erected onsite to help mortar bond properly and to protect stone from freezing temperatures.

Project administrator Jim Williamson of Connecticut Stone Supplies, concurs with Weeder's assessment of the process. His company supplied Hampton Blend granite – a mix of several granite colors, all originating from a single Connecticut quarry. Williamson explains the exacting requirements: "The granite had to be sawn on all four sides, to approximately 52 different heights and couldn't exceed five inches in bed depth. It was then hand chiseled to a rock face. We couldn't use production methods, so we worked in sequence and built from the bottom up." Job specifications made it necessary for Connecticut Stone to purchase a Python Saw with a 78-inch saw blade.

Connecticut Stone Supplies did the work in-house to stay on schedule. "Our main concerns were time frame and supplying material," Williamson says. Granite takes longer to quarry in winter, another time waster. Despite pressures, Williamson says the result was worth it: "I've been in the industry 22 years and I've never seen anything like this."

From a business standpoint, the project was successful. "We knew what we were getting into, we priced it accordingly, and the architect had great drawings," Williamson says. Teamwork helped, too. "The end users realized the time involved to saw and rock-face stone." This understanding extended to the homeowner as well. "He was interested in knowing about stone and the processes involved, and he visited the stone yard."

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In addition to exterior walls, Connecticut Stone furnished Hampton Blend granite for pool area walls, columns and the chimneys. The chimney bases are Hampton Blend; upper portions are Cushwa Brick with Silverdale limestone caps; and the transitions are also made of Silverdale.

Showcasing Stone

Silverdale limestone was selected for the trim and window surrounds because it resembles English Bath Stone. Vermont slate was used on the roof and Ohio Berea Sandstone slabs were chosen for exterior pavers, pool deck and coping. Sandstone was chosen for its resistance to mold growth and warm "sandy beach" appearance, Weeder says.

Natural stone is also evident throughout the home's grand interiors. The French Poiseul Jaune limestone used in much of the flooring appears again in wine cellar pavers and staircase treads. French limestone also graces the dining room's nine-foot dueling fireplaces and mantels.

An Old World Approach to New Home Construction

The Glencoe home would not exist were it not for the Midwest's vibrant craftsman tradition. Talented masons, stone cutters, carvers and setters brought the architects' vision to life. This artisanal approach to construction is apparent – from iconography carved into fireplaces, to graceful granite columns, to the rooftop gargoyle statues watching over the premises.

Jacek Sit, owner of Jack's Masonry, and his team of six men, installed the interior and exterior stone. From an installer's perspective, the project presented challenges. Stone was transported from areas outside Illinois, which sometimes slowed the stoneworkers' progress. And hoisting huge pieces of stone 70 feet in the air to install chimneys required extreme care. Such obstacles were overcome because of teamwork and the architects' involvement. "If we had questions, the architects were always there. They're the best architects I've ever worked with – they have vision and they know what they're doing," Sit says.

A project of this scope demanded the cooperation of many professionals from varied backgrounds. Their shared vision was an appreciation for stone's enduring beauty and a willingness to bring that beauty forth into a functional, finely crafted home. ◆

Nancy Moreland *developed an admiration for stone architecture while touring Scottish castles. Nancy may be reached at nmoreland@ConveyMore.com.*

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RISING FROM THE GROUND

Opus 22

By Martha Barksdale

IT TAKES MORE WORK, NOT LESS, to create a landscape that seems to have naturally evolved over time. That was the goal for Opus 22, Marpa Design Group's award-winning plan for the landscape at this Genesse, Colo., estate. The owner of the spectacular Colorado mountain home wanted a landscape that made it seem as though both the garden and the house arose naturally from the environment, as though they had always existed – crafted by nature out of stone.

"As the landscape architects, our firm worked with the architects to find stone available both as boulders and as veneer for the house walls, pillars and retaining wall facings," says Marpa owner Martin Mosko. "This coordination enabled us to achieve the organic connection between house, garden and environment." Mosko named the project Opus 22 since it is his 22nd work of landscape composition.

The rugged terrain was the biggest challenge, Mosko says, noting how difficult it is to move and set rock on steep slopes. Another challenge: the landscaping was taking place at the same time the home was under construction, requiring coordination with the builder.

Pennsylvania bluestone, granite and Colorado moss rock were used in the landscape of Opus 22, Mosko says. The homeowner has a special affinity for moss rock, and it was utilized at his request. Colorado moss rock is sandstone covered in lichen – hence the name, says Jim Striggow, owner of Stone Wholesale Corp. in Fort Collins, Colo., and the supplier of stone for this project. Striggow says the stone has been weathered – "carved by the elements" – and lends a "designed by nature" look to any landscape. The seven colors of lichen combine to make gorgeous combinations of colors, he says.

The importance of stone to this landscape is established at the entrance to the drive, where gigantic boulders were set as sentinels, giving a feeling of grandeur upon entering the property. Mosko says the Colorado moss rock boulders set the mood for the rest of the entry garden, which is based on a mountain woodland.

Striggow calls the entryway boulders "two monsters." One stone weighed in at 47 tons and another 43 tons. He says he believes them to be the largest single stones ever shipped in one piece in Colorado.

Installing them was a true challenge, Striggow and Mosko recollect. "The main road to the site is very curvy, and then the drive up to the property is quite narrow," Mosko relates. "We had to back lowboys up in there and use large cranes."

Striggow remembers the installation with relish. "We had a good time with those huge cranes and rigging crews," he says.

Special permits had to be obtained by the trucking company to move the wide load. Chase cars with flashing lights led the way up the mountain, Striggow says, noting it took about four hours to get the boulders from the original site to the property.

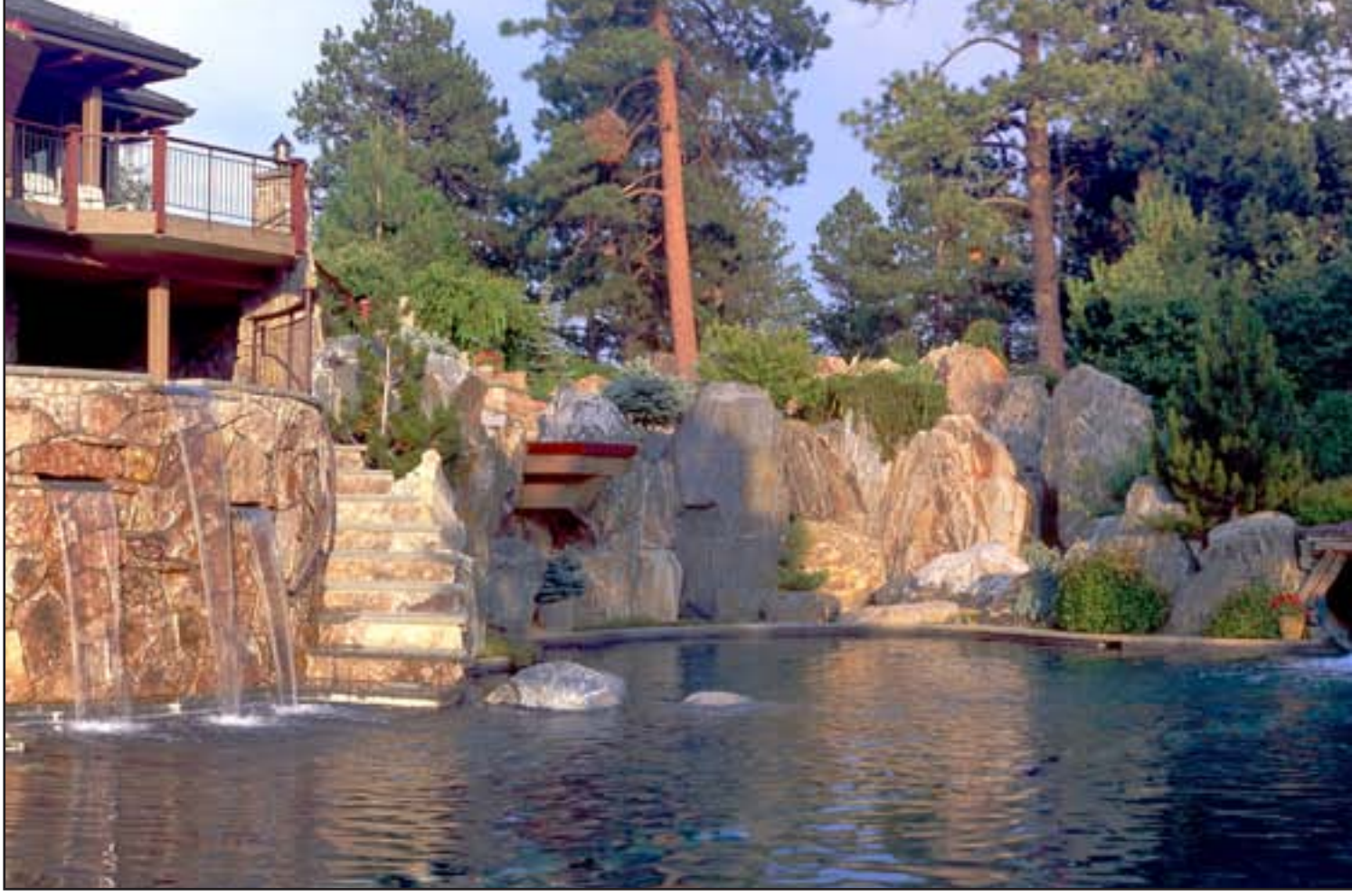
The true majesty of the stone is realized in the landscape on the west side of the home: The house looks out over a 16-foot deep swimming pool which appears to be a natural mountain lake formed at the base of a river and large waterfall. The pool's disappearing edge leads the eye out to

PROJECT TEAM

Designer
Marpa Design Studio, Boulder, Colo.

Stone Supplier:
Marpa Design Studio, Boulder, Colo.

Stone Installers
Stone Wholesale, Fort Collins, Colo.
Albert Frei, Henderson, Colo.



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the view of the Continental Divide in the distance, connecting the built landscape with the natural environment, Mosko notes.

The stone work in this area begins at the south side, where a bluestone patio is surrounded with the sight and sound of water in a stone-laced watercourse. The river flows from a pond near the drive, makes several falls and turns, and embraces the patio.

Below the patio, giant moss rock boulders dominate, channeling the waterfall and creating their own inspiring view. Setting the stone for this dramatic waterfall had to be done twice. "We set each boulder the way it should sit in the final design; carefully measured, labeled and photographed it; then disassembled the entire mass of stones to be stored at another area on site. Then the pool was made, the 20-foot western retaining wall built, and the mountain on the south end begun. Only after that portion of the landscape was completed

could we pour the concrete under-structure and return the boulders to their proper places in the landscape," Mosko says, noting this took a month during the year-long project.

Pennsylvania bluestone provides a natural touch around the pool. To support the sense of a naturally occurring mountain lake, the landscapers set stones at the edges and even in the pool itself. These soften the edges of the poured concrete pool and provide ledges and seating for those who just want to sun themselves.

"The waterfall begins outside the kitchen window," Mosko says. "It is made of local moss rock. As the river descends, the boulders become larger and gradually mix with granite boulders. These same granite boulders surround the entire swimming pool. Inside the pool we used rounded, glaciated, boulders."

The northern end of the pool is edged with a Pennsylvania bluestone patio to provide entertainment space and to complement the stone of the waterfall. The 10-foot stone wall and stairs leading to the pool are built to match the granite on the house and pillars, making the house appear to grow out of the ground. "The rock used on the house was chosen by Sears Barrett, the architect," Mosko says. "We used the same masons and same stone resources to build the masonry parts of the swimming pool."

This design pulls off the difficult reconciliation between functionality and beauty, largely through the use of natural stone, Mosko adds. The landscape has received awards from associations of both contractors and of landscape architects; it has been featured in several national magazines and been called one of the best modern pools in America.◆

Martha Barksdale *has written articles for numerous publications. She is a graduate of the University of Georgia and lives in the Atlanta area.*

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BAILEY PLAZA MODELS THE VERSATILITY OF BLUESTONE

Bailey Plaza, Cornell University

By Gail Snyder

CUTTING GARDENS AND GRAZING lands for livestock once surrounded Bailey Hall, the central building of Cornell University's Agriculture Quadrangle, but as the years rolled by the automobile arrived, causing much of the agrarian scenery to be consumed by concrete parking spaces. From classrooms overlooking the one-acre lot, professors and students of the landscape architecture department peered out on the asphalt sea that lapped almost to the grand entrance of the building they viewed as a cultural focus of the campus. They envisioned a better setting. Yet, for decades the Bailey Plaza project remained mired in the planning stage.

"Each year the landscape architecture students were asked to do a design for the plaza, so it was on the minds of students, faculty and administrators for a long time to do something," explains Stephen Noone, project manager for the plaza. And they finally did.

In 2004, the university contacted Michael Van Valkenburgh of Michael Van Valkenburgh Associates Inc., a landscape architecture firm based in New York City with 20 years of prestigious experience in designing, building and restoring landscapes. A Cornell alumnus, Van Valkenburgh is also a native of the region's Catskill Mountains where he became fascinated by and familiar with Ithaca's breathtaking gorges punctuated by stone outcroppings.

"We won the project with a design based on using natural local stone, which is New York bluestone, for the plaza pavement and the stone outcrop water feature," Noone says. "The fountain's outcrop certainly wasn't meant to imitate nature, but it was a designer's interpretation of the stone formations in and around the area."

Bluestone, a primary regional stone, was selected to complement the same stone used in many of the university's buildings, as well as for its durability and beauty. Despite its name, bluestone is found in a variety of hues ranging from lilac, purple, blue gray, blue green, even dark chocolate, and some bluestone takes on a rust color due to ancient reeds oxidized within it. "For this project, we weren't looking for the pristine or monotone colors which are typically used," Noone says. "We specifically wanted every color that was available."

That requirement meant multiple trips to Tompkins Bluestone in Hancock, N.Y., which supplied all of the stone for the project – approximately 7,000 square feet of thermal finish and 15,000 square feet of natural cleft. "The architect wanted a very distinct difference between the thermal and the natural cleft," says Bill Mirch, a vice president of Tompkins Bluestone. "Sometimes natural cleft can be very smooth, and they wanted a rougher texture."

Working with drawings furnished by Connecticut Stone Supplies in Milford, Conn., the Tompkins Bluestone team cut every stone for the complicated patchwork pattern, while Buzz Dolph, president of Ithaca Stone

Setting Inc., in Ithaca, N.Y., transferred detailed information to his stone setters. The rough, bed-grained cleft bluestone was squared off at the sides to make it usable for paving while the thermal-finish bluestone was cut on all six surfaces, moistened and flamed to provide a consistent, somewhat gritty finish. "We did the entire layout for the jointing," Mirch explains. "There were as many as 34 shop drawings for each section. It was very difficult, but it worked out great."

Recognizing the plaza location as a central campus connecting route, the architects created intentional, but subtle, pathways. "We consciously used the stone pattern to guide pedestrian movement," Noone says. "We have inroads through the plaza, clear directional swaths that we call 'brushstrokes' of bluestone pavement with the patchwork stone as infill. Both the thermal and natural cleft is used in the pavement with the solid, monotone thermal finish bluestone contrasted by the natural cleft stone in all of its different colors."

In architectural landscaping, artistic design must rest on a lasting foundation. The plaza's 3-inch-thick thermal stones and 3- to 4 ½-inch-thick cleft stones are set in a dry pack for expedited water drainage. Tompkins Blue-

PROJECT TEAM

Designer

Michael Van Valkenbrugh Associates Inc., Landscape Architects PC

Stone Installers

Ithaca Stone Setting, Ithaca, N.Y.
Syrstone Inc., North Syracuse, N.Y.

Stone Suppliers

Connecticut Stone Supplies, Milford, Conn.
New York Quarries Inc., Alcove, N.Y.
Tompkins Bluestone, Hancock, N.Y.

stone factored in tight joints by cutting 24-inch stone specifications to 23 ⅞ inches to 23 15/16 inches.

"That way when we butted the stone together, there was room for a little play, but on average 1/8-inch tight joints are throughout the plaza," Mirch explains. The perfectionism paid off. "Normally on a job with that many square feet, some things are missed," he says. "But the guys in our yard did a stand-up job, looked over every piece, and it turned out 100 percent."

As did the finished project. Bailey Plaza has been transformed from a parking lot to an academic oasis reflecting a sea of change in form and function. Now the inviting walkways of the plaza provide a soothing, nature-filled journey across central campus. Surrounded by carefully placed trees that provide an ever-changing canvas of color and shade, pedestrians can rest on Douglas fir benches. The benches, set on concrete slabs, are raised slightly off the pavement to allow for air and water movement, as the calming sound of falling water flows through the plaza from the stone outcrop water feature that anchors the southern point of the

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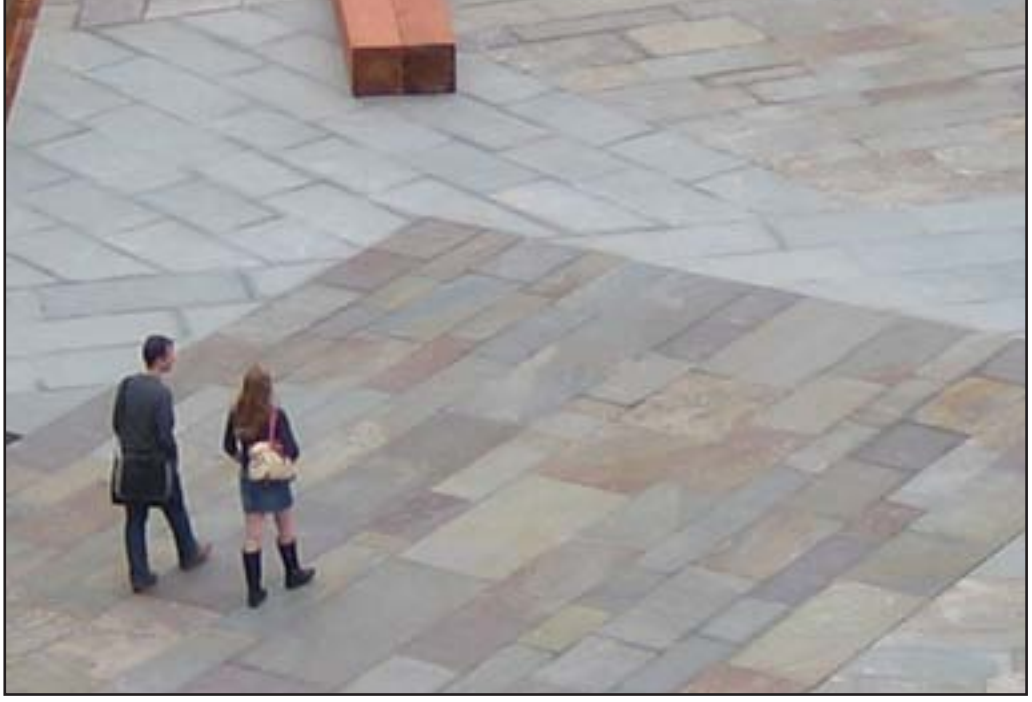

plaza and balances the grand stairway entry of Bailey Hall.

Produced by Bruce O'Brien of New York Quarries Inc., in Alcove, N.Y., each piece of the fountain was numbered, palletized and shipped like a puzzle to installers. According to O'Brien, the Hamilton bluestone type used in the fountain is a low-yield stone, yet makes for an excellent building material. "It's square, looks very natural and is a dense, water resistant stone," he says. O'Brien and his sons are second and third generation stonemasons giving them the expertise for specialty projects such as the Bailey Plaza fountain. With 30 acres of stone from which to select, New York quarries can work directly with the architect and problem solve on site. First building a plywood mock-up of the fountain, followed by actual fabrication and assembly, the O'Briens and the architects resolved complex water-flow issues in the cantilevered fountain design. Eventually, lines were applied around each piece of stone, and the shop drawing perfectly matched the numbered pieces in the fountain wall.

"When this was shipped to the job, it was nothing more than an erector set for the installers," says O'Brien of the fountain that required approximately 80 tons of stone. "This process, to my knowledge is unique, and I think holds worldwide potential."

All involved in the project can now share with friends and families their lasting tribute to Cornell University and the citizens of Ithaca. "The design is simple yet complex," Noone states. "We basically used four materials – stone, wood, water and vegetation – to accomplish the effect. I think that simplicity is what makes Bailey Plaza so successful." ◆

__Gail Snyder__ is an Atlanta-based freelance writer and editor.

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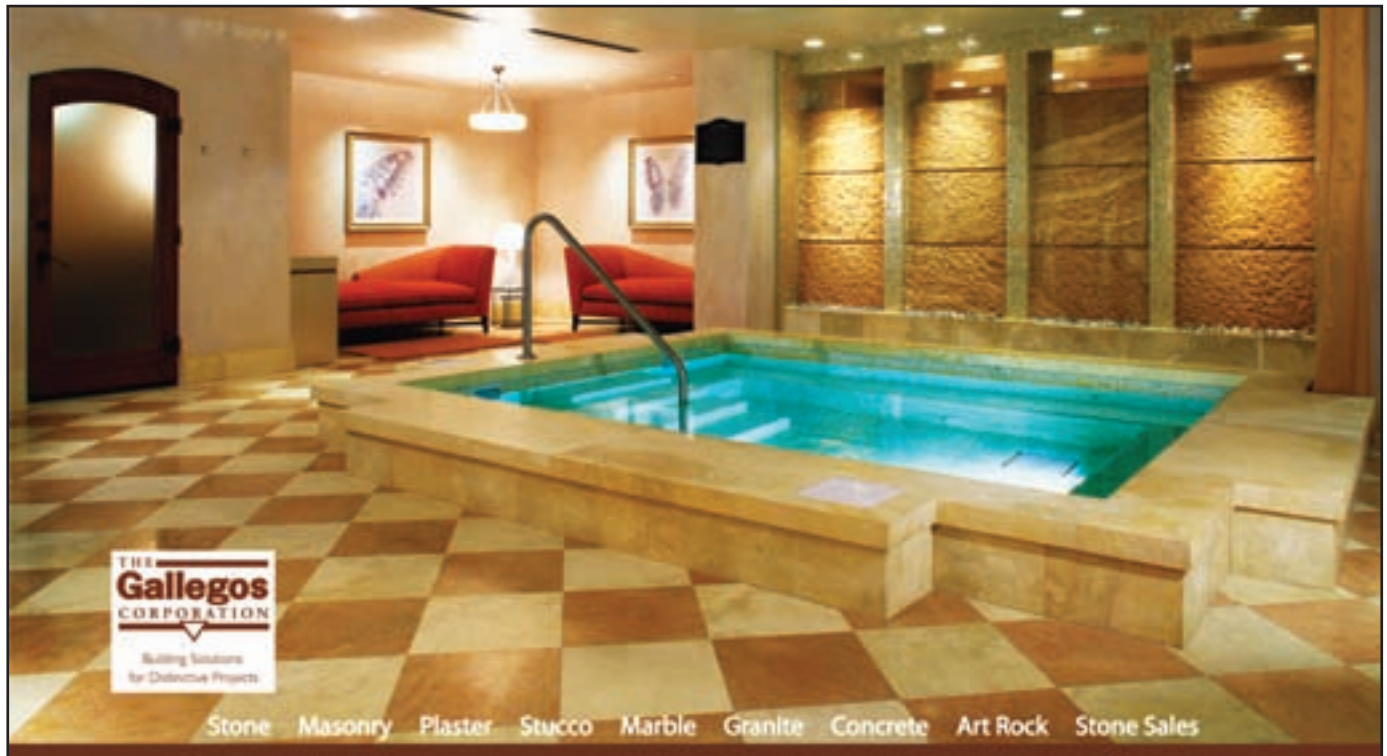

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THE COMMUNITY CHALKBOARD

A Monument to Free Expression

By K.K. Snyder

TASKED WITH CREATING A LIVING, interactive monument to the First Amendment and the right to free expression, Pete O'Shea of Siteworks and Robert Winstead of VMDO Architects, both of Charlottesville, Va., knew from the beginning that natural stone would play a large role in the final tribute.

The result is the award-winning Community Chalkboard: A Monument to Free Expression. An extension of the bricked pedestrian mall that skirts the Charlottesville City Hall, The Community Chalkboard consists of two vertical slate veneered walls, each seven feet tall. The walls – one 40 feet long, the other 12 feet long, bearing the inscription of the First Amendment – are a huge draw for area residents as well as visitors to the city. Here, people use the giant chalkboards to express anything and everything in writing.

"The most important goal of the project was to be really interactive as well as timeless and not too high-tech," says O'Shea, a landscape architect. Designers chose the chalkboard format because nearly everyone shares collective childhood memories of writing on the blackboard at school. It occurred to the Chalkboard architects that visitors might feel more comfortable expressing themselves in a way they were already so familiar with.

Buckingham-Virginia Slate Corporation in Arvonia, Va., supplied and fabricated the cleft stone for the project. The only remaining slate quarry in the state, Buckingham has been in operation since 1878. Owned for more than 100 years by the Lesueur family and purchased in 1994 by Richard and Julia Rose, the company maintains its family owned and operated status. Today, the Rose's son also works in the business.

"There were many quarries in Virginia at one time…but it's very expensive to mine slate, and eventually the other quarries died out," explains Julia Rose.

The project is believed to be the first of its kind created for the general public. The idea was born more than nine years ago and came to fruition through collaboration with residents and officials of Charlottesville, plus seven years of public presentations, fundraising, gallery installations and workshops.

The Charlottesville location for the Chalkboard project was made even more ideal thanks to the Buckingham slate quarry located just 50 miles down the road. The quarry enabled architects to easily use local materials, O'Shea says. And the slate complemented that used on a number of buildings in the immediate area and throughout the city.

PROJECT TEAM

Designer

Pete O'Shea, Siteworks
Robert Winstead, VMDO
Charlottesville, Va.

Stone Installer

Empire Granite Company, Richmond, Va.

Stone Supply/Fabrication

Buckingham Virginia Slate Company, Buckingham, Va.

O'Shea appreciates the fact that Buckingham Virginia Slate Company still extracts stone the "old school" way, pulling it out of the ground with a backhoe and using relatively low-tech methods for processing it. The stone's accessibility is also a benefit for replacing any damaged pieces of the chalkboard in the future, he adds. The Community Chalkboard was constructed without mortar joints, which also allows for easy replacement of any damaged sections. The pieces were fabricated on a regular module and attached with custom-made steel anchors.

Traditionally used for slate shingles, Virginia slate's best qualities include color consistency and durability. The stone holds up especially well to weathering. Shingles even 80 years old still look as good as they did the day they were installed, O'Shea says.

Buckingham slate, Julia Rose explains, is a non-fading blue-black slate. "When they erected this wall they wanted a slate that wouldn't change color. As they write on the chalkboard and it's washed off or rained on, nothing will affect it," she says. "The slate wasn't sealed and shouldn't be sealed."

Empire Granite Company of Richmond, Va., was the stone installer for the project. While the installation itself wasn't unique compared to stone they have been installing for projects since the 1930s, national recognition of a job well done is always a plus, says Cary Broocks, project manager for Empire.

"It's not unusual for us to do an installation like that; we've come across everything," he says. "But we were glad to be involved in a project such as The Chalkboard for Charlottesville, and the architects were great to work with."

Today, visitors young and old alike, enjoy making their mark on the chalkboard, using chalk stored in the integrated stainless steel chalk storage tray that includes a fiber optic lighting system. The boards are cleaned twice a week and within hours are filled again with messages from Bible verses to love notes. Some messages are even objections to the board. It seems some visitors are offended because people can write absolutely anything they want to. But isn't that what free expression is all about? ◆

K.K. Snyder is a freelance writer and editor based in Albany, Ga. She can be reached at kkondeadline@hotmail.com.

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DISTINCTLY NEW ENGLAND

Atwater Commons

By K.K. Snyder

As part of a plan to develop a residential commons, KieranTimberlake Associates LLP, of Philadelphia, designed two stone-clad residential buildings and a 225-seat dining hall, collectively known as Atwater Commons. Each residence provides intimate living-learning environments for about 450 students at Middlebury College in Middlebury, Vt.

The two residence halls face one another in a staggered fashion, creating a new mall or greenspace, framing distant views to the north and back to Le Chateau, a campus icon. Each is placed parallel to and slightly engaged with the two ridges forming Atwater's landscape. The halls bend slightly with the landscape contours, subtly breaking the sides of the halls into smaller increments.

The design of the residence hall facades was the result of a detailed and careful study of options. Designers were mindful of the existing classic design of the campus and used several types of natural stone to complement buildings that have stood on the grounds for as long as two centuries. Most of the campus architecture features stone as a major building element, says Richard Maimon, principal with KieranTimberlake.

"The residence halls were located to frame the views of distant landscapes. The new dining hall is an elliptical, set into the woods and described as a pavilion that maximizes views of the landscape. Unlike traditional dining halls, which tend to be inwardly focused, we maximized the light and views," he says.

For the sides of the residence halls that face the new greenspace, KieranTimberlake selected a coursed dolomitic limestone called Monkton, supplied by Owen Sound Ledgerock of Owen Sound, Ontario, Canada, and brokered by Vermont Structural Slate. In a warm gray tone, the limestone blocks were cut in linear pieces with tight joints. The masonry openings are "tied" with granite lintels, which provide additional shading for the deeply set windows. Granite lintels and columns, with a deeper set glass and wood wall, provide larger openings at the base for the stair and lobby entries, as well as the seminar room and library.

Tom Stobbe, president of Owen Sound Ledgerock, says the very dense, hard stone is unique to the Manitoulin Island area of Canada. "Its ability to weather will be a strong point. In longevity, it holds its color well whereas others fade out. Though it does fade some, it does so very lightly," Stobbe says. "The architects really liked the color and the appearance of the stone when they came up to see it."

For the sides facing the forest, the design employed local, uncoursed granite – actually a waste material from Vermont military gravestone fabrication – cut and dressed on-site by the masons, Maimon says. "The

PROJECT TEAM

Designer

KieranTimberlake Associates LLP, Philadelphia, Pa.

Stone Installer

JB Stone, St. Albans, Vt.

Stone Suppliers

Vermont Structural Slate, Fair Haven, Vt.
Owen Sound Ledgerock, Owen Sound, Ontario, Canada
Granit Aurelien Tremblay, Alma, Quebec, Canada

original buildings tended to have a more finished or tailored coursed stone facing primary spaces on campus and a more rustic use of stone on some of the buildings facing secondary spaces," he explains. "So we picked up that tradition."

Lead-coated copper roofs and trim finish the buildings, while brick chimneys punctuate the roof and eave lines. The chimneys refer visually to the college's earlier buildings, but serve here as ventilation stacks, assisting the natural ventilation of the buildings.

KieranTimberlake selected stone suppliers within a 500-mile radius of the campus to keep within the college's environmental goals and budgetary guidelines. Dimensional stone, "spring green" granite, was supplied by Granit Aurelien Tremblay (quarry owner and stone fabricator) of Alma, Quebec, Canada. Stone installation was conducted by J. B. Stone, of St. Albans, Vt.

Articulated as a glazed pavilion nestled in the woods, the dining hall provides tree-level views out to the town of Middlebury and the mountains beyond. The base of the dining hall is faced in lead-coated copper shingles.

Largely glass set in a wood frame, the dining hall picks up the stone from the residence halls as an identifying icon, namely in the stairway/fireplace chimney tower at its entrance. The limestone and brick tower forms a visual landmark for the dining hall, while sharing a common element with the residence halls.

Locating the buildings on a former parking lot allowed designers to create beautiful, more environmentally friendly landscapes and facilities on an otherwise underutilized space, Maimon says. The project was able to implement, for subgrade purposes, all the native stone blasted from foundations on site. This reclaimed stone was used in landscaping at the edge of buildings and within metal gabions to form site walls and sound walls at the dining hall.

Atwater Commons "feels distinctly New England, feels like an extension of the Middlebury campus, yet is modern at the same time," Maimon concludes. ◆

K.K. Snyder is a freelance writer and editor based in Albany, Ga. She can be reached at kkondealine@hotmail.com

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SACRED AND HISTORIC

Park East Synagogue

By Martha Barksdale

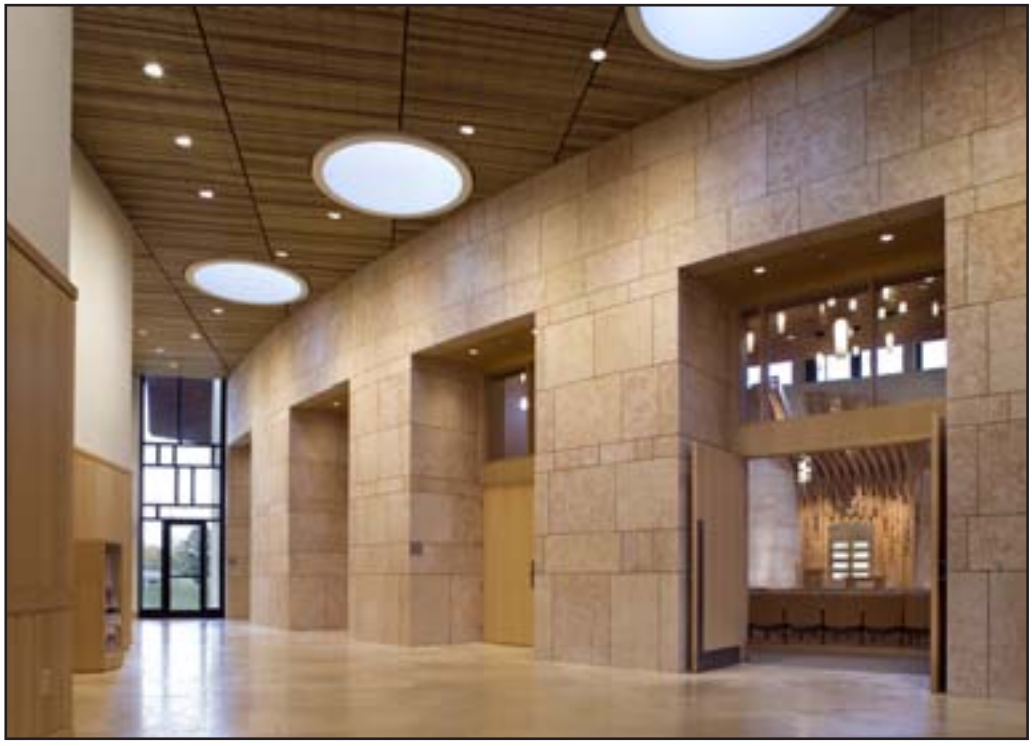
WITH RESPECT FOR THE PAST, but with an eye on the future, the builders of Park East Synagogue in Pepper Pike, Ohio, faced the challenge of creating a structure that will stand the test of time.

The 63,500-square-foot building encompasses a sanctuary, school and community center and serves as a new East Campus for the expanding congregation of the renowned Park Synagogue in Cleveland Heights, designed by Eric Mendelsohn in 1950. Like its older sibling, the new synagogue is intended to offer welcome, shelter and blessing to its congregation, says Mark Simon, FAIA, of Centerbrook Architects and Planners in Centerbrook, Conn., who designed the synagogue with Edward J. Keagle, AIA. "While this building is a straightforward plan for the sake of economy, its materials and special elements make it a sacred place," Simon notes. "Though modern in design, it is bound to the history of Judaism."

Maintaining costs within the congregation's budget led to creative thinking on the part of the architects. "To keep stone in the budget, we worked with the stone supplier and contractor to design a thin stone veneer that would keep the appearance of the stone that we sought," Simon says. The sanctuary is surrounded inside and out by gently curving, monumental stone walls – at the entrance from the lobby and behind the Bimah (altar). The stone is coursed in large horizontal bands reminiscent of the primordial construction of early Jerusalem temples.

The building is a simple steel frame box clad in a stick and panel mosaic of copper cladding. Three large organic shapes burst from the box. "The sanctuary is clad in gold Jerusalem stone with a flamed finish. Two great copper-covered canopies leading to a two-story lobby," says Simon. At the entry, seats of Jerusalem stone provide a place of rest and quiet security, and also create a physical barrier between the people and the vehicles in the drive and parking lot. "Jerusalem stone piers of different heights support the copper entrance canopies, reminiscent of age-old ruins," Simon says. Light bounces off of the piers and leaks in, around and through the canopies.

"Once you come into the entry hall, you face this incredible wall, not unlike the Wailing Wall, which has deep portals in it leading to the sanctuary," Simon says. The passage to the core of the



PROJECT TEAM

Designer

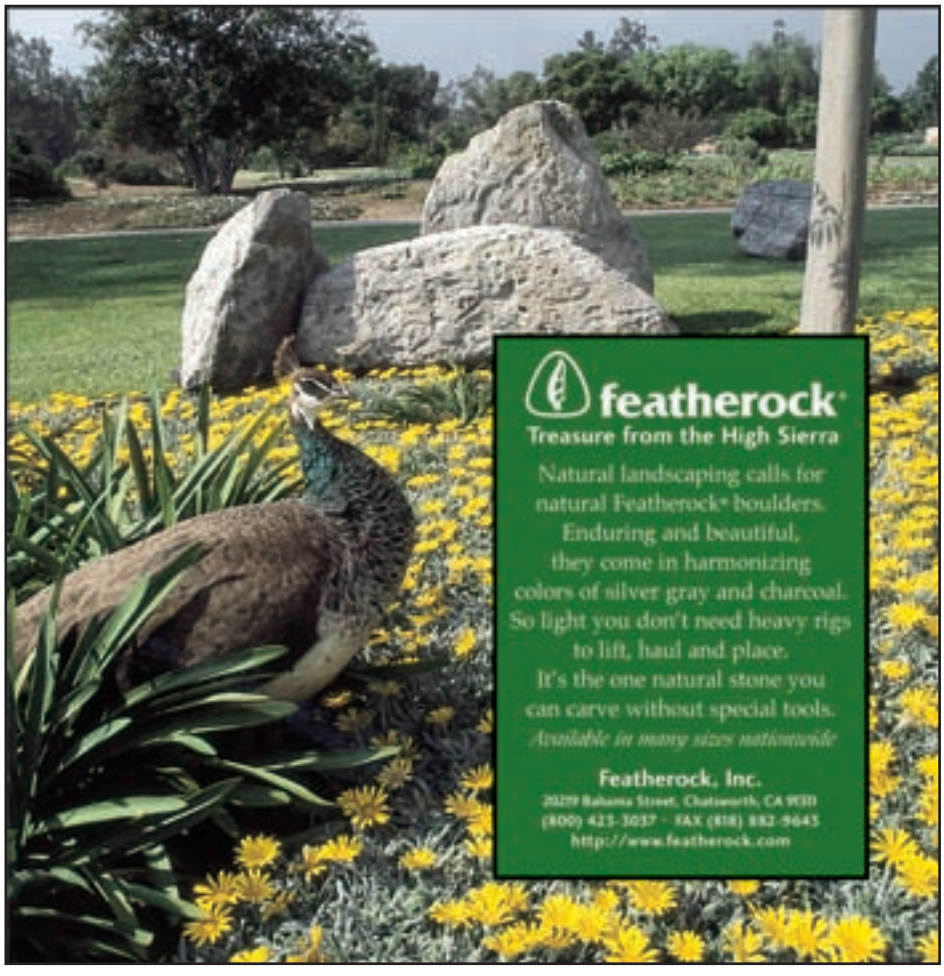
Mark Simon, FAIA, with Edward J. Keagle, AIA
Centerbrook Architects and Planners, Centerbrook, Conn.

Stone Supplier

Jerusalem Gardens Stone Works Ltd., Beit-Shemesh, Israel

Stone Installer

SPS & Associates, Hudson, Ohio



sanctuary is marked by several layers of shadow and light that offer a sense of security, exploration and a step-by-step journey "out of this world into a sacred world," he continues.

The sanctuary is divided into three spaces by acoustically paneled operable walls. The chapel at its center holds 190 people in fixed seats. A large meeting room and a community hall open from either side for large gatherings. Both spaces have arched wood ceilings facing the chapel.

At the west end of the building's central spine is the library. Near it, off the lobby, are offices and meeting rooms that house directors of the school and the rabbis. The school offices are strategically placed at the entrance to provide natural security, enabling staffers to monitor comings and goings with ease, says Simon. The school wing is a two-story box. Classrooms line the edges with a play area in the center of the first floor and art and music rooms sit above.

Inside the sanctuary, the curved walls of gold Jerusalem stone help make the congregants feel protected. "Light in the sanctuary comes indirectly from four edges, giving it a soft glow and a feeling of quietude and solace," Simon says. The floor is also of gold Jerusalem stone, this time honed for a matte finish.

In order to maintain a connection to the past, all stone for the synagogue came from Israel, supplied by Jerusalem Garden

Stone Works Ltd. "Jerusalem stone is a hard dolomite limestone, quarried only in Israel and used for sacred buildings since ancient times," says Ilan ben-Ezri, the marketing and sales director for Jerusalem Gardens Stone Works. "The gold Jerusalem stone has purple and red veins running through its yellow/gold surface," ben-Ezri notes. The synagogue's exterior and interior walls have a flamed finish. "This exposure to fire accents and highlights the red veins, giving the stone a rosy tint," ben-Ezri says. In addition to the flaming, the interior walls were also slightly brushed, which opens the veins, ben-Ezri says, adding to the effect of antiquity. "It makes the stone look like it has been used for a long time," he notes.

Paul Shand, owner of SPS & Associates, the Ohio firm that installed the stone, says he visited quarries in Israel to personally oversee the stone acquisition for the project. Top quality stone was necessary because of the complexity of the work and the thin veneer that was used.

"We had to fit 3,600 individual stone pieces into a special repeating pattern that is common to Jewish religious buildings," Shand says. "We began with more than 11 containers of stone." The repeating pattern and the curved walls made this a challenging, but ultimately satisfying job. ◆

Martha Barksdale *has written articles for numerous publications. She is a graduate of the University of Georgia and lives in the Atlanta area.*

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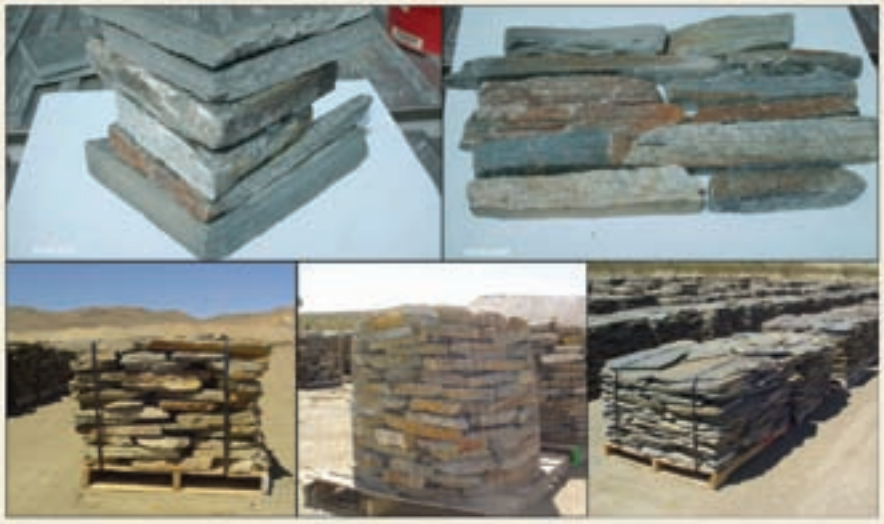

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SHOWCASING STONE'S GRANDEUR AT GLENCOE

To the Manor Born

By Nancy Moreland

PROJECT TEAM

Designer

Liederbach & Graham, Architects
Chicago, Ill.

Stone Installers

Jacks Masonry, Crystal Lake, Ill.
Masonry by Fernando, Rondout, Ill.

Stone Suppliers

Connecticut Stone Supplies, Milford, Conn.
Cleveland Quarries, Amherst, Ohio
Evergreen Slate Company Inc., Granville, N.Y.
Galloy and Van Etten, Chicago, Ill.
Jay Sackett Associates, Skokie, Ill.

WITH HAND CUT LIMESTONE AND GRANITE WALLS, a slate roof and five different chimneys, the Glencoe residence could be mistaken for a venerable English manor. It stands regally, however, 20 miles north of Chicago in the lakeside suburb of Glencoe. Although Heathcliff would feel comfortable among the English Arts and Crafts inspired architecture, the house was built just four years ago in an elegant neighborhood of established homes.

Recipient of a 2008 Tucker Design Award, the Glencoe residence is an anomaly among modern production-style homes. Designed by Michael Graham, Liederbach and Graham, Architects, of Chicago, its story unfolded as gradually as a Victorian novel. During three years of construction, its creators – including Dennis Smalley, Builders and superintendent Stephanie Ruder – experienced the rewards and challenges of using stone in ways that will inspire for generations. The result blends Old World craftsmanship with 21st century technology.

The Vision

Like most love stories, this one began with an attraction. The homeowners' passion for Arts and Crafts architecture took them to England. Along with their design team, they toured houses around the Midlands and Surrey regions. The experience fueled the designers' vision to create a high level of craftsmanship and detail. Stone played an integral role in defining that vision.

Project architect Erica Weeder with Liederbach and Graham, Architects, supervised the daily construction details. "Stone was used for its quality and character," she says. The homeowners, according to Weeder, valued stone's permanence and tactile quality, but their interest was grounded in an appreciation of stone's aesthetics.

Overcoming Challenges

The structure utilized stone in so many architectural elements, it is a testament to what can be accomplished with exceptional materials and craftsmanship. For

the home's exterior, the architects combined coursed pitched-faced granite walls with cut Silverdale limestone trim and window surrounds. Chosen for their resemblance to Cotswold stone and Cumbrian granite, the materials withstand harsh winters.

The exterior walls were arguably the most labor intensive facet of the project. To create a pitched appearance, stone workers cut each piece of granite into a regular shape before rendering the stone face into a convex form. Done by hand, the work took nine months and presented problems. "Sometimes stone splits out with a concave face or edges that are too sharp," Weeder says. Quarried in Kansas, the limestone was cut, then carved and scraped smooth to form precise window surrounds, trim and "shoulder" transition areas for the chimneys. The architects utilized AutoCAD mock-ups and endeavored to control all elements – from mortar color to hand pitching. A heated Quonset hut was erected onsite to help mortar bond properly and to protect stone from freezing temperatures.

Project administrator Jim Williamson of Connecticut Stone Supplies, concurs with Weeder's assessment of the process. His company supplied Hampton Blend granite – a mix of several granite colors, all originating from a single Connecticut quarry. Williamson explains the exacting requirements: "The granite had to be sawn on all four sides, to approximately 52 different heights and couldn't exceed five inches in bed depth. It was then hand chiseled to a rock face. We couldn't use production methods, so we worked in sequence and built from the bottom up." Job specifications made it necessary for Connecticut Stone to purchase a Python Saw with a 78-inch saw blade.

Connecticut Stone Supplies did the work in-house to stay on schedule. "Our main concerns were time frame and supplying material," Williamson says. Granite takes longer to quarry in winter, another time waster. Despite pressures, Williamson says the result was worth it: "I've been in the industry 22 years and I've never seen anything like this."

From a business standpoint, the project was successful. "We knew what we were getting into, we priced it accordingly, and the architect had great drawings," Williamson says. Teamwork helped, too. "The end users realized the time involved to saw and rock-face stone." This understanding extended to the homeowner as well. "He was interested in knowing about stone and the processes involved, and he visited the stone yard."

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In addition to exterior walls, Connecticut Stone furnished Hampton Blend granite for pool area walls, columns and the chimneys. The chimney bases are Hampton Blend; upper portions are Cushwa Brick with Silverdale limestone caps; and the transitions are also made of Silverdale.

Showcasing Stone

Silverdale limestone was selected for the trim and window surrounds because it resembles English Bath Stone. Vermont slate was used on the roof and Ohio Berea Sandstone slabs were chosen for exterior pavers, pool deck and coping. Sandstone was chosen for its resistance to mold growth and warm "sandy beach" appearance, Weeder says.

Natural stone is also evident throughout the home's grand interiors. The French Poiseul Jaune limestone used in much of the flooring appears again in wine cellar pavers and staircase treads. French limestone also graces the dining room's nine-foot dueling fireplaces and mantels.

An Old World Approach to New Home Construction

The Glencoe home would not exist were it not for the Midwest's vibrant craftsman tradition. Talented masons, stone cutters, carvers and setters brought the architects' vision to life. This artisanal approach to construction is apparent – from iconography carved into fireplaces, to graceful granite columns, to the rooftop gargoyle statues watching over the premises.

Jacek Sit, owner of Jack's Masonry, and his team of six men, installed the interior and exterior stone. From an installer's perspective, the project presented challenges. Stone was transported from areas outside Illinois, which sometimes slowed the stoneworkers' progress. And hoisting huge pieces of stone 70 feet in the air to install chimneys required extreme care. Such obstacles were overcome because of teamwork and the architects' involvement. "If we had questions, the architects were always there. They're the best architects I've ever worked with – they have vision and they know what they're doing," Sit says.

A project of this scope demanded the cooperation of many professionals from varied backgrounds. Their shared vision was an appreciation for stone's enduring beauty and a willingness to bring that beauty forth into a functional, finely crafted home. ◆

Nancy Moreland *developed an admiration for stone architecture while touring Scottish castles. Nancy may be reached at nmoreland@ConveyMore.com.*

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RISING FROM THE GROUND

Opus 22

By Martha Barksdale

IT TAKES MORE WORK, NOT LESS, to create a landscape that seems to have naturally evolved over time. That was the goal for Opus 22, Marpa Design Group's award-winning plan for the landscape at this Genesse, Colo., estate. The owner of the spectacular Colorado mountain home wanted a landscape that made it seem as though both the garden and the house arose naturally from the environment, as though they had always existed – crafted by nature out of stone.

"As the landscape architects, our firm worked with the architects to find stone available both as boulders and as veneer for the house walls, pillars and retaining wall facings," says Marpa owner Martin Mosko. "This coordination enabled us to achieve the organic connection between house, garden and environment." Mosko named the project Opus 22 since it is his 22nd work of landscape composition.

The rugged terrain was the biggest challenge, Mosko says, noting how difficult it is to move and set rock on steep slopes. Another challenge: the landscaping was taking place at the same time the home was under construction, requiring coordination with the builder.

Pennsylvania bluestone, granite and Colorado moss rock were used in the landscape of Opus 22, Mosko says. The homeowner has a special affinity for moss rock, and it was utilized at his request. Colorado moss rock is sandstone covered in lichen – hence the name, says Jim Striggow, owner of Stone Wholesale Corp. in Fort Collins, Colo., and the supplier of stone for this project. Striggow says the stone has been weathered – "carved by the elements" – and lends a "designed by nature" look to any landscape. The seven colors of lichen combine to make gorgeous combinations of colors, he says.

The importance of stone to this landscape is established at the entrance to the drive, where gigantic boulders were set as sentinels, giving a feeling of grandeur upon entering the property. Mosko says the Colorado moss rock boulders set the mood for the rest of the entry garden, which is based on a mountain woodland.

Striggow calls the entryway boulders "two monsters." One stone weighed in at 47 tons and another 43 tons. He says he believes them to be the largest single stones ever shipped in one piece in Colorado.

Installing them was a true challenge, Striggow and Mosko recollect. "The main road to the site is very curvy, and then the drive up to the property is quite narrow," Mosko relates. "We had to back lowboys up in there and use large cranes."

Striggow remembers the installation with relish. "We had a good time with those huge cranes and rigging crews," he says.

Special permits had to be obtained by the trucking company to move the wide load. Chase cars with flashing lights led the way up the mountain, Striggow says, noting it took about four hours to get the boulders from the original site to the property.

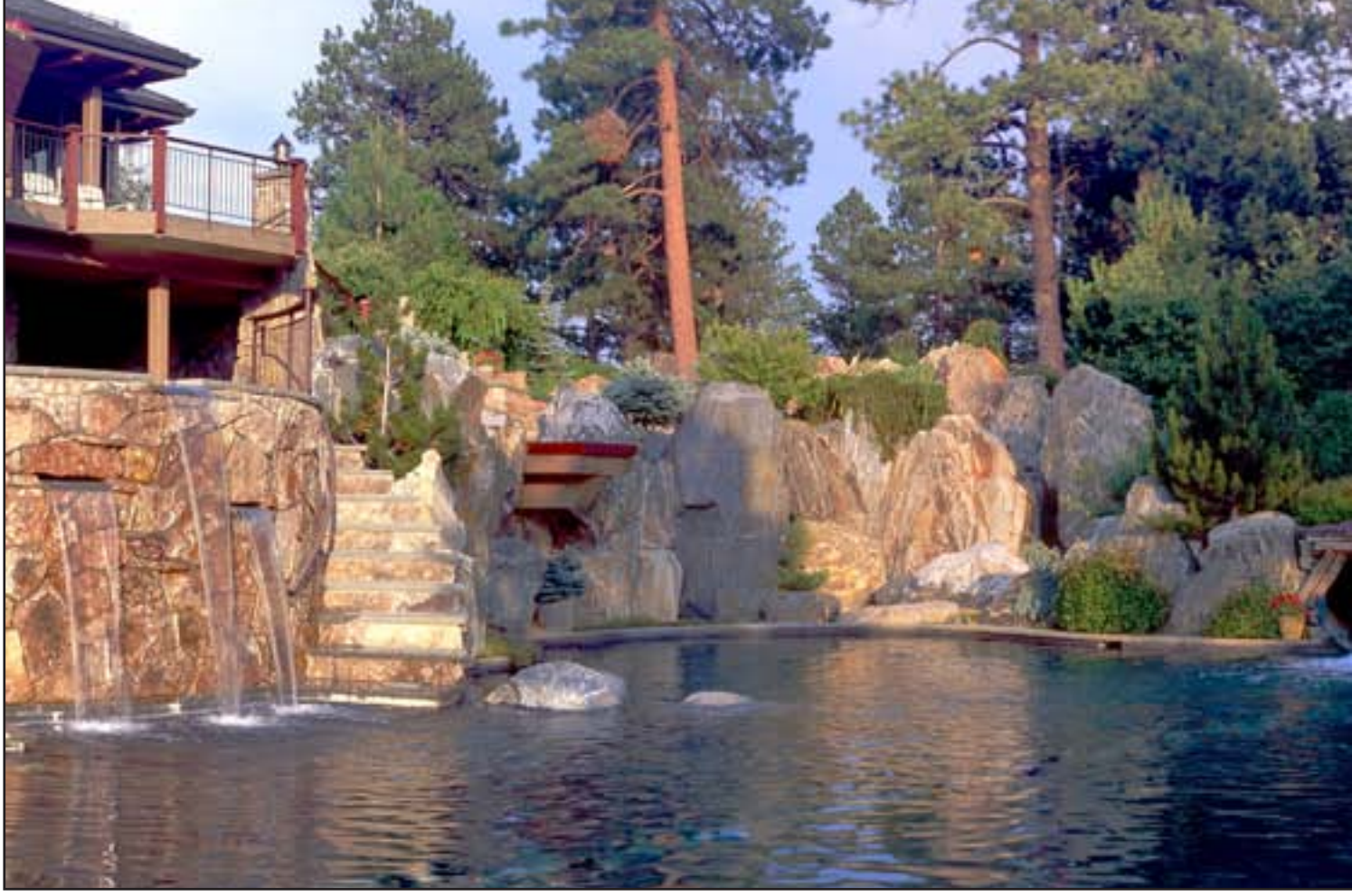
The true majesty of the stone is realized in the landscape on the west side of the home: The house looks out over a 16-foot deep swimming pool which appears to be a natural mountain lake formed at the base of a river and large waterfall. The pool's disappearing edge leads the eye out to

PROJECT TEAM

Designer
Marpa Design Studio, Boulder, Colo.

Stone Supplier:
Marpa Design Studio, Boulder, Colo.

Stone Installers
Stone Wholesale, Fort Collins, Colo.
Albert Frei, Henderson, Colo.



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the view of the Continental Divide in the distance, connecting the built landscape with the natural environment, Mosko notes.

The stone work in this area begins at the south side, where a bluestone patio is surrounded with the sight and sound of water in a stone-laced watercourse. The river flows from a pond near the drive, makes several falls and turns, and embraces the patio.

Below the patio, giant moss rock boulders dominate, channeling the waterfall and creating their own inspiring view. Setting the stone for this dramatic waterfall had to be done twice. "We set each boulder the way it should sit in the final design; carefully measured, labeled and photographed it; then disassembled the entire mass of stones to be stored at another area on site. Then the pool was made, the 20-foot western retaining wall built, and the mountain on the south end begun. Only after that portion of the landscape was completed

could we pour the concrete under-structure and return the boulders to their proper places in the landscape," Mosko says, noting this took a month during the year-long project.

Pennsylvania bluestone provides a natural touch around the pool. To support the sense of a naturally occurring mountain lake, the landscapers set stones at the edges and even in the pool itself. These soften the edges of the poured concrete pool and provide ledges and seating for those who just want to sun themselves.

"The waterfall begins outside the kitchen window," Mosko says. "It is made of local moss rock. As the river descends, the boulders become larger and gradually mix with granite boulders. These same granite boulders surround the entire swimming pool. Inside the pool we used rounded, glaciated, boulders."

The northern end of the pool is edged with a Pennsylvania bluestone patio to provide entertainment space and to complement the stone of the waterfall. The 10-foot stone wall and stairs leading to the pool are built to match the granite on the house and pillars, making the house appear to grow out of the ground. "The rock used on the house was chosen by Sears Barrett, the architect," Mosko says. "We used the same masons and same stone resources to build the masonry parts of the swimming pool."

This design pulls off the difficult reconciliation between functionality and beauty, largely through the use of natural stone, Mosko adds. The landscape has received awards from associations of both contractors and of landscape architects; it has been featured in several national magazines and been called one of the best modern pools in America.◆

Martha Barksdale *has written articles for numerous publications. She is a graduate of the University of Georgia and lives in the Atlanta area.*

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BAILEY PLAZA MODELS THE VERSATILITY OF BLUESTONE

Bailey Plaza, Cornell University

By Gail Snyder

CUTTING GARDENS AND GRAZING lands for livestock once surrounded Bailey Hall, the central building of Cornell University's Agriculture Quadrangle, but as the years rolled by the automobile arrived, causing much of the agrarian scenery to be consumed by concrete parking spaces. From classrooms overlooking the one-acre lot, professors and students of the landscape architecture department peered out on the asphalt sea that lapped almost to the grand entrance of the building they viewed as a cultural focus of the campus. They envisioned a better setting. Yet, for decades the Bailey Plaza project remained mired in the planning stage.

"Each year the landscape architecture students were asked to do a design for the plaza, so it was on the minds of students, faculty and administrators for a long time to do something," explains Stephen Noone, project manager for the plaza. And they finally did.

In 2004, the university contacted Michael Van Valkenburgh of Michael Van Valkenburgh Associates Inc., a landscape architecture firm based in New York City with 20 years of prestigious experience in designing, building and restoring landscapes. A Cornell alumnus, Van Valkenburgh is also a native of the region's Catskill Mountains where he became fascinated by and familiar with Ithaca's breathtaking gorges punctuated by stone outcroppings.

"We won the project with a design based on using natural local stone, which is New York bluestone, for the plaza pavement and the stone outcrop water feature," Noone says. "The fountain's outcrop certainly wasn't meant to imitate nature, but it was a designer's interpretation of the stone formations in and around the area."

Bluestone, a primary regional stone, was selected to complement the same stone used in many of the university's buildings, as well as for its durability and beauty. Despite its name, bluestone is found in a variety of hues ranging from lilac, purple, blue gray, blue green, even dark chocolate, and some bluestone takes on a rust color due to ancient reeds oxidized within it. "For this project, we weren't looking for the pristine or monotone colors which are typically used," Noone says. "We specifically wanted every color that was available."

That requirement meant multiple trips to Tompkins Bluestone in Hancock, N.Y., which supplied all of the stone for the project – approximately 7,000 square feet of thermal finish and 15,000 square feet of natural cleft. "The architect wanted a very distinct difference between the thermal and the natural cleft," says Bill Mirch, a vice president of Tompkins Bluestone. "Sometimes natural cleft can be very smooth, and they wanted a rougher texture."

Working with drawings furnished by Connecticut Stone Supplies in Milford, Conn., the Tompkins Bluestone team cut every stone for the complicated patchwork pattern, while Buzz Dolph, president of Ithaca Stone

Setting Inc., in Ithaca, N.Y., transferred detailed information to his stone setters. The rough, bed-grained cleft bluestone was squared off at the sides to make it usable for paving while the thermal-finish bluestone was cut on all six surfaces, moistened and flamed to provide a consistent, somewhat gritty finish. "We did the entire layout for the jointing," Mirch explains. "There were as many as 34 shop drawings for each section. It was very difficult, but it worked out great."

Recognizing the plaza location as a central campus connecting route, the architects created intentional, but subtle, pathways. "We consciously used the stone pattern to guide pedestrian movement," Noone says. "We have inroads through the plaza, clear directional swaths that we call 'brushstrokes' of bluestone pavement with the patchwork stone as infill. Both the thermal and natural cleft is used in the pavement with the solid, monotone thermal finish bluestone contrasted by the natural cleft stone in all of its different colors."

In architectural landscaping, artistic design must rest on a lasting foundation. The plaza's 3-inch-thick thermal stones and 3- to 4 ½-inch-thick cleft stones are set in a dry pack for expedited water drainage. Tompkins Blue-

PROJECT TEAM

Designer

Michael Van Valkenbrugh Associates Inc., Landscape Architects PC

Stone Installers

Ithaca Stone Setting, Ithaca, N.Y.
Syrstone Inc., North Syracuse, N.Y.

Stone Suppliers

Connecticut Stone Supplies, Milford, Conn.
New York Quarries Inc., Alcove, N.Y.
Tompkins Bluestone, Hancock, N.Y.

stone factored in tight joints by cutting 24-inch stone specifications to 23 ⅞ inches to 23 15/16 inches.

"That way when we butted the stone together, there was room for a little play, but on average 1/8-inch tight joints are throughout the plaza," Mirch explains. The perfectionism paid off. "Normally on a job with that many square feet, some things are missed," he says. "But the guys in our yard did a stand-up job, looked over every piece, and it turned out 100 percent."

As did the finished project. Bailey Plaza has been transformed from a parking lot to an academic oasis reflecting a sea of change in form and function. Now the inviting walkways of the plaza provide a soothing, nature-filled journey across central campus. Surrounded by carefully placed trees that provide an ever-changing canvas of color and shade, pedestrians can rest on Douglas fir benches. The benches, set on concrete slabs, are raised slightly off the pavement to allow for air and water movement, as the calming sound of falling water flows through the plaza from the stone outcrop water feature that anchors the southern point of the

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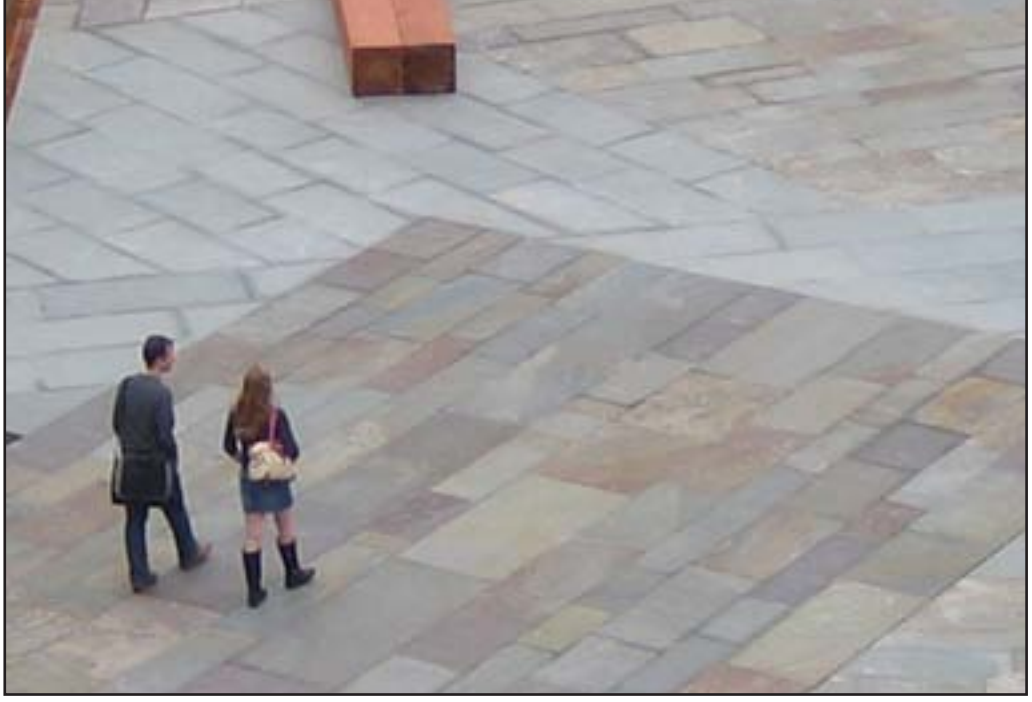

plaza and balances the grand stairway entry of Bailey Hall.

Produced by Bruce O'Brien of New York Quarries Inc., in Alcove, N.Y., each piece of the fountain was numbered, palletized and shipped like a puzzle to installers. According to O'Brien, the Hamilton bluestone type used in the fountain is a low-yield stone, yet makes for an excellent building material. "It's square, looks very natural and is a dense, water resistant stone," he says. O'Brien and his sons are second and third generation stonemasons giving them the expertise for specialty projects such as the Bailey Plaza fountain. With 30 acres of stone from which to select, New York quarries can work directly with the architect and problem solve on site. First building a plywood mock-up of the fountain, followed by actual fabrication and assembly, the O'Briens and the architects resolved complex water-flow issues in the cantilevered fountain design. Eventually, lines were applied around each piece of stone, and the shop drawing perfectly matched the numbered pieces in the fountain wall.

"When this was shipped to the job, it was nothing more than an erector set for the installers," says O'Brien of the fountain that required approximately 80 tons of stone. "This process, to my knowledge is unique, and I think holds worldwide potential."

All involved in the project can now share with friends and families their lasting tribute to Cornell University and the citizens of Ithaca. "The design is simple yet complex," Noone states. "We basically used four materials – stone, wood, water and vegetation – to accomplish the effect. I think that simplicity is what makes Bailey Plaza so successful." ◆

__Gail Snyder__ is an Atlanta-based freelance writer and editor.

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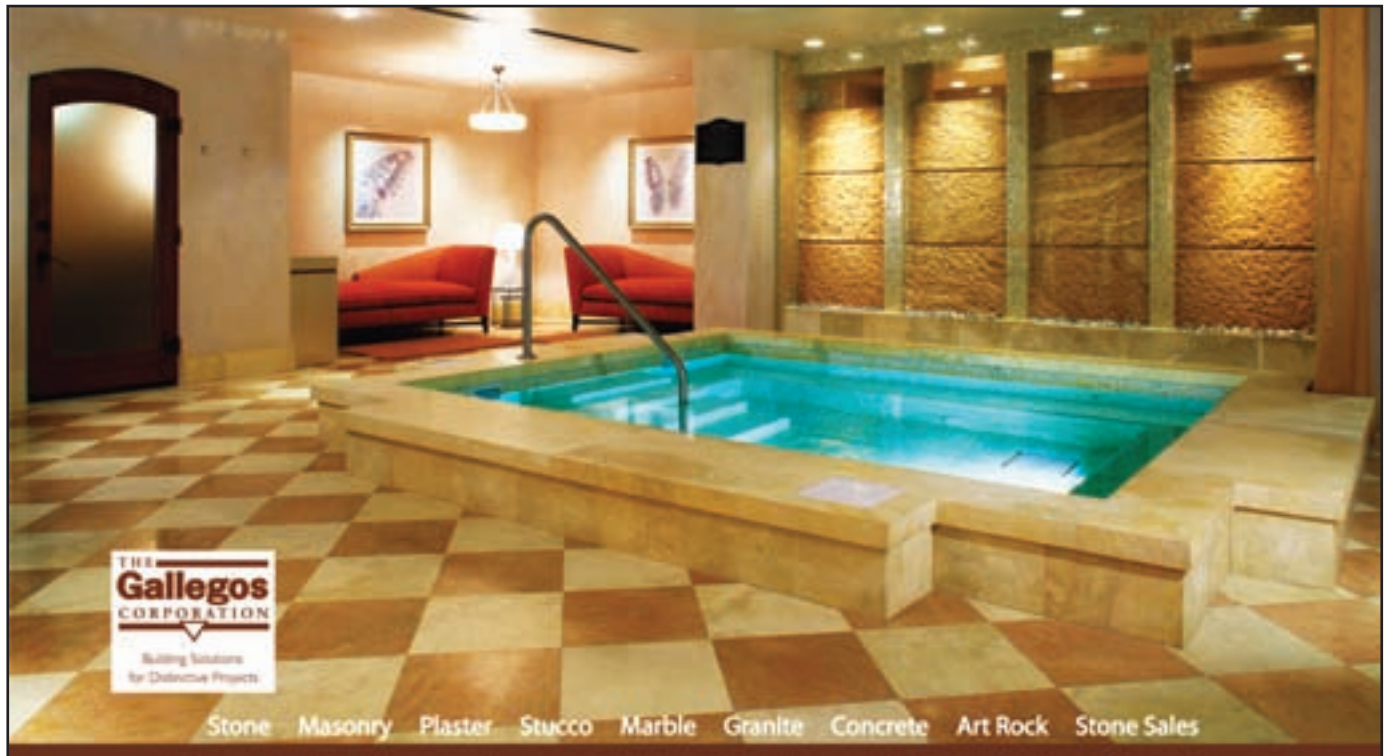

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