Winter 2006 Volume 29, Number 4

INTERIOR STONE TRENDS

Kitchen & Bath Trends

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Fireplaces Upgraded Flooring Filippo Brunelleschi

> Minnesota Rocks! Stone Symposium



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On the Cover:

Spencer Brickwork completed the masonry work on five fireplaces in this St. Louis home. This living room fireplace uses cottonwood limestone and has an enormous 6' x 5'4" opening.

> Photo courtesy of Marxer Photography

Photo courtesy of Connecticut Stone Supplies Inc

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62 West of the West Wing

Of the hundreds of buildings architect Alfred B. Mullet designed, Washington D.C.'s old Executive Office Building is one of only 16 still standing – and it narrowly missed the kiss of the wrecking ball. Sited literally west of the West Wing at Pennsylvania Avenue and 17th Street, it suggests the world's greatest gingebread house, although it's constructed with solid stone.

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Photo courtesy of Champlain Stone Ltd



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40 Filippo Brunelleschi – The Genius Behind Florence's **Iconic Dome**

Filippo Brunelleschi was the Italian Renaissance architect and engineer who designed the double-shelled masonry dome of the Cathedral of Santa Maria del Fiori without the use of a centering support structure. He also designed and built a revolutionary hoist and crane to move the heavy stones and bricks 170 feet up to the top of the drum where construction of the dome began.

50 Symposium Showcases Diversity of Minnesota Stone

This past summer, artists from China, Egypt, Finland, Germany and Italy descended on a patch of grass near downtown St. Paul, Minn., joining six local stone carvers in transforming the space into a giant, open-air studio. The 14 carvers lived and worked together for five weeks in May and June, making sculptures from Minnesota stone for permanent installation in public locations throughout the host city.

Photo courtesy of Pennie Sabel



Photo courtesy of Alabama Stone Company



Photo courtesy of Tim Heitman







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BSI Introduction

Stone and the Interior Environment

Jonathan Zanger Walker Zanger

CCORDING TO HISTORY, Italian Renaissance artist Michelangelo claimed that his greatest sculptures were "prisoners, trapped within blocks of Carrara marble," and that he was simply the vehicle through which they were freed. The rough blocks of stone inspired him in much the same way that natural stone still inspires the creative impulses of artists, architects and the general public, for whom it has become ever more accessible.

In this issue of Building Stone Magazine, we explore the use of stone in interior architecture, in both commercial and residential applications. That use was once confined to grand public institutions and the homes of nobility and great wealth - or to those fortunate enough to live in areas where stone was an abundant and available building material.

Now, through innovative new technologies and vast new resources, stone is available in affordable formats for evergreater populations, and in an abundance of varieties never before considered. Nevertheless, it is still the unrivaled beauty that nature provides that inspires us to revisit classical uses of natural stone and to

imagine and create new ways to use an ancient building material.

As we hope this issue will demonstrate, interiors offer us the most plentiful possibilities for the use of natural stone. Few other materials are so suitable for both traditional architecture and the modern aesthetic. Architects and designers, confronted with an ever-increasing palette of colors and finishes, are discovering new ways to use stone in every conceivable interior environment. At the same time, they are rediscovering the age-old reasons why stone has always been prized - beauty, durability and a uniqueness that is impossible to recreate with man-made products.

At our firm, we are fortunate to work with many of the leading designers and architects in the country. We are constantly awed by the unusual and original ways in which these professionals work with a product that has been used in buildings for many thousands of years. While some are wedded to the wonderful traditions of stone architecture, others are constantly breaking new ground and inspiring us in the industry to develop new ways to cut, finish and install stone, ultimately expanding the "vocabulary" of the medium.

Corrections

In the Fall 2006 issue, we mistakenly identified John Synko of Mark 1 Restoration Company Inc. in Chicago as the only stone installer for The Park at Lakeshore East. W.R. Weis Company Inc. of Chicago installed the granite for this project. We also incorrectly identified the stone installer on the Prothro House addition and remodel. Fenimore-Blythe Masonry Contractors of Haltom City, Texas, completed the stone installation for this project.

In the 2007 Buyers Guide issue, Lompoc Quarries, Masonry Technology Inc., Natural Stone Veneers International and PASVALCO were not properly denoted

as Building Stone Institute members. Camara Slate's e-mail and website addresses were incorrect; they are info@camaraslate.com and www.camaraslate.com. Delaware Quarries Inc. was listed without the product types that the company offers. The products and services are: Bluestone, Brownstone, Building Stone, Cleaners, Consultant, Distributor, Fabrication, Fieldstone, Flagstone, Granite, Importer/Exporter, Landscape, Limestone, Marble, Quarrier, Quartzite, Sandstone, Sealants, Specialty Building Stone, and Thin Stone Veneer.

We apologize for these oversights.



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New Trends in Kitchen and Bath Design

By M. W. Penn



HAT'S HAPPENING IN KITCHEN AND BATH TRENDS? The answer is surprising because the developments are striking and consistent; from New England to California, designers and owners are instigating new ideas by using more stone, integrating mixtures of multiple colors and finishes, and specifying larger

Putting our finger on the pulse of the industry, here is just some of what we found:

slabs for larger rooms.

Nancy Barden, Memphis, Tenn.

"The homeowner wants something different, unusual, exotic," said Nancy Barden of Barden Stone. "The average homeowner is more educated about stone and willing to experiment with the myriad of stone options available.

"Many types of stone are used throughout the home, such as marble, granite, limestone, travertine and onyx. Our clients want something that speaks of their own perLEFT:

The trend is toward kitchens designed as centers for living and entertaining and textured surfaces are a big part of the story.



ABOVE: This kitchen uses Barden Stone 2cm red onyx for its countertops. sonality and they often want a different material, a different color, in each room. We just installed red onyx for a laundry room! People have become more understanding of stone and are simply willing to enjoy it."

Barden noted one example of the popular color mixing. "We have just installed a kitchen that mixed two types of granite, Red Marinace and Terra Cotta Bordeaux. Red Marinace is more exotic with lots of movement and color, and was used in the most prominent area, the kitchen island. The more subtle Terra Cotta Bordeaux was used on the periphery of the kitchen. But the eye candy of the kitchen was a full slab of Red Marinace that formed the backsplash, from counter top to ceiling,

behind the cooktop. This was at the suggestion of the designer, and a complete success. The slab acts just like a piece of artwork."

She finds that this is often the case. "Architects and designers are able to use stone like an artist uses paint to create a piece of artwork, and then integrate it into a room." She feels that the ideas professional designers bring to the table are helpful for the individual project and the growth of the entire industry. Designers are always "pushing the envelope," she said.

Another trend comes from the developing technology of CNC equipment and water jet. "Stone is able to be sculpted easier than before; if the homeowner wants a curve or wave in their stone, this can be done." At the other end of the spectrum, Barden also is seeing minimalism make a return – clean straight lines, monochromatic materials – what she calls the industrial look.

And the size of new kitchens calls for other changes. "Because of the increasing size of the American kitchen, kitchen islands are often much larger. Slabs this size would be more likely to break using thinner two centimeter stone, so three centimeter material is becoming common." Barden tries to keep to 1/8-inch joints placed in an unobtrusive area; of course, large slabs are best for center islands.

Barden Stone is seeing the popularity of natural stone grow. "Other products try to say they are better than stone. At least half our countertop business is remodels, and we are removing other products and replacing them with stone. I have yet to have someone tell me they would never use granite again. Nothing can replace the durability and long life of natural stone in everyday use."

Joe Percoco, Denver

New finishes. That's the observation of Joe Percoco of Percoco Marble and Tile Company. "Clients are asking for something new, something different. We had been doing quite a bit of river-wash finish, but that has been replaced in popularity by a leather finish."

To achieve a river-wash finish, stone is flamed or bush hammered and then polished with brushes to smooth the sharpness of the surface. The process takes out some color and makes the surface more porous. A leather finish can do the opposite. "It begins with a honed surface that is then worked with diamond brushes; the process brings back the color and closes pores, making the stone denser. The result is similar to the finish achieved by using a 300 or 400 grid. It has a nice sheen and is less porous than a honed finish."

In fact, Percoco said that more inconsistency in the stone betters the process. "The process is successful on soapstone and certain limestone, too." ABOVE: Verde Granite in a leather finish in a kitchen by Percoco Marble and Tile Co. Inc.

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BELOW:

A Tuscan scene and range hood hand carved from Kasota Valley limestone blend with the surrounding granite to add color, texture and art to the kitchen.

Joe Dellacroce, Milford, Conn.

In New England, Joe Dellacroce of Connecticut Stone Supplies Inc. has used a similar finish to give limestone floors a European street-worn appearance, sandblasting the surface before softening the effect with diamond brushes. And he agrees that customers are looking for something different. "It's a unique look, a bit more expensive to achieve, but clients feel the result is worth it," Dellacroce said.



Mark Barthelemy, Cold Spring, Minn.

Continuing the story of different stone used in combination, Ellen Cheever & Associates, designers of a kitchen in Minneapolis, found unique uses for granite and limestone in a project that also accents the trend of texture combined with creative talent.

Mark Barthelemy, a designer with Cold Spring Granite and a consultant on the project, developed the "broken edge" design used on countertops and the front of solid granite sinks. The edges were broken by skilled craftsmen using a hammer and chisel and the high points were polished. Finally, water jets were used to smooth any small imperfections and restore the color. This fabrication method blended the edges gently into the polished surface of the countertop.

Barthelemy said of the method, "Often, the sudden transition of polished surface to

dull edge, especially at the corner of two plane surfaces, creates harshness in the way the two planes relate to each other. The differing surface treatments don't always combine well; the polished plane appears to float on the surface, like icing on the top of a cake that isn't spread down the sides. The technique moves the polished surface into the edge, creating a graceful transition."

Rick Jones, Knoxville, Tenn.

Rick Jones of Stonecraft Inc., a dimensional stone fabricator, finds that customers in his market area no longer confine their choices to a simple color selection of standard granites. Instead, they select different stones to use in combinations. They choose granite, marble, limestone and tumblestones in different blends. Granite framed in travertine is popular, and limestone, slate and soapstone



are prevalent in the country kitchens of vacation homes.

Granite is still the number one choice for kitchen counters, but even here, Jones is seeing different surface and edge finishes. Honed and brushed surfaces are popular. Though honed surfaces are a bit more permeable than highly polished surfaces, they can be impregnated with sealers that reduce staining. "People who love to cook, who work and entertain in their kitchen, don't mind the worn appearance that can evolve after time. Designers understand that these clients enjoy the look and feel of an Old World, European kitchen. It's part of the charm."



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In a trend related to kitchens designed as centers for living and entertaining, Jones, too, is seeing more large kitchens with enormous center islands. He finds that he spends more time locating slabs as large as 11 feet by six feet six inches. "Slabs of this size are not readily available in every material. Quarried marble and limestone have natural limits, as do boulder granites. Even granite slabs are confined to a size that can be economically fabricated and shipped. The opalescent and black varieties are more readily available, but the demand for more unique stone is growing. Though many people don't want to wait for custom imports, the color permanence of natural stone overrides every other material." This combination of factors has increased the time he spends searching for the right importers and brokers.

Though Stonecraft, a custom shop, uses craftsmen for the unique look clients demand, and it still chooses to do touch-up work to produce the more exact standards that set its work apart, some shops take their jobs right from the CNC machine to installation, cutting costs.

"Because these newer fabrication techniques have made stone available to a broader market, natural stone is finding its way into many lower-cost housing units," Jones said. "First-time homeowners who have experienced the beauty and durability of natural stone realize that stone isn't restricted to million-

LEFT TOP:

Mark Barthelemy, a designer with Cold Spring Granite, developed the 'broken edge' finish used on the front of this solid granite sink.

LEFT BOTTOM: A bathroom vanity and sink carved from a block of limestone.





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ABOVE: In this bath, limestone is carried across the floors and up the walls, with carved architectural features and moldings completing the effect. dollar mansions. When they move up to their second or third home, they incorporate stone in the design." Jones believes that familiarity with stone is helping to expand the market.

Brenda Edwards, Garden City, Texas

Brenda Edwards of TexaStone Quarries sees limestone being used more frequently in baths and kitchens. She, too, is seeing many honed and brushed surfaces and finds that TexaStone's ability to produce large slabs also has increased the popularity of its beautiful, creamy stone.

Further, Texas limestone is adaptable. When fabricated into the honed counter surfaces mentioned by Rick Jones, the stone provides a warm, Old World look to a kitchen; combined with tumbled back splashes in a diamond pattern, it creates an especially comfortable ambiance. Still, in another context, limestone in these lighter earth tones can give a contemporary kitchen or bath a modern edge.

"People had always been afraid to use limestone because they believed it was too porous; but when limestone is impregnated with a good sealer that absorbs into the stone and prevents liquids or food stains from seeping into the pores – not simply a topical sealer – then limestone is very functional," Edwards said. "As a matter of fact, TexaStone Quarries has fab-

REFERENCES:

Barden Stone Memphis, Tenn. (901) 683-8264 www.bardenstone.com

Cold Spring Granite Company Cold Spring, Minn. (800) 328-5040 www.coldspringgranite.com

Connecticut Stone Supplies Inc. Milford, Conn. (203) 882-1000 www.connecticutstone.com

Percoco Marble And Tile Co. Inc. Denver (303) 733-3013 www.percocomarble.com

Stonecraft Inc. Knoxville, Tenn. (865) 966-3900 www.stonecraftusa.com

TexaStone Quarries Garden City, Texas (432) 354-2569 www.texastone.com

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ricated several limestone fountains and baptisteries, and seepage is never a problem."

Finishes continue to be a big part of the story. In the bathroom, Edwards sees showers using honed or tumble finish limestone becoming very popular. Tub surrounds with a split face, rough look on the vertical sides in combination with a honed or polished top surface also are popular. The stone often is carried onto the other surfaces of the room, across the floors and up the walls, with carved moldings completing the effect. "The different textures we can achieve on the stone create beautiful, rich, subtly varied surroundings," she said.

RIGHT:

In a Walker Zanger bath, a basin is carved from a single piece of Calacata Luna marble hand-crafted in Italy and the walls above are Calacata Luna marble tile. An eclectic hourglass border and Bauhaus base moldings frame the room.

Walker Zanger, New York

In a bath by Walker Zanger and designed by Larry Laslo Designs, limestone and marble join in exquisite detail. Eclectic hourglass border and Bauhaus base moldings frame the room with the exacting art of Italian craftsmen. The simply elegant Calacata Luna diagonal cut floor is set off with a circular center medallion of solid Flannel limestone slab.

The bronze washstands are finished with basins carved from a single piece of Calacata Luna marble handcrafted in Italy, and the walls are Calacata Luna marble tile.

Summary

Fabrication methods for natural stone flooring and countertop applications continue to improve, and the use of natural stone in kitchens and baths continues to multiply. Stone not only increases the value of a home, it enhances the pleasure of living there. The best trend is the growing number of people who understand this value and the number of fabricators and suppliers that are ready to fulfill this need. ◆





FIREPLACES:

Adding the Warmth of Natural Stone

By Mark Haverstock

HO CAN RESIST THE MAGICAL feeling of warmth and intimacy that a fireplace pro-

vides? The cozy atmosphere naturally draws people together – whether it's an intimate group enjoying glasses of wine around a small stone hearth, or a large family gathering around a grand structure that rises to a vaulted ceiling. A fireplace can also be a refuge where individuals can enjoy solitude and peacefulness. It's an open invitation to sit for a spell, a diversion from the must-do list and the generally hectic pace of modern life. Relaxed, you lie back and admire the color and texture of the hearth and surround, knowing that Mother Nature herself could only create such beauty. RIGHT: Roof view of finished chimney on New Hampshire Lake Residence. Photo courtesy of Noldesigr

BELOW: Fireplace serves as centerpiece for spacious living room.







ABOVE:

Hand-crafted fireplace constructed of Lompoc Oatmeal flagstone, Lompoc Mountain ledgestone, Gray Blend and Lompoc Mountain Ledge Cream.

RIGHT:

Full Castle Rock thin veneer earth tones add warmth to family room.



Artistic License

Stone and art have always been an inseparable combination, dating back to the ancient Greeks. Modern artists, such Pete Archer, while inspired by this rich history, are using stone in new and creative ways. For his own home, Archer relied on Sepulveda Building Materials to provide him with a combination of Lompoc Oatmeal flagstone, Lompoc Mountain ledgestone, Gray Blend and Lompoc Mountain Ledge Cream to build his one-of-a-kind creation. "What he did was cut down the full-size veneer and did a dry stack out of it," said Steve Ashton of Sepulveda. "The detail on it is amazing he took the flagstone and hand chiseled for a perfect fit."

With all of the pieces custom cut, Archer took almost two years to complete the fireplace and other related stone projects around his residence. "There's plenty of detail," Ashton said. "He has a header, hearth and a mantle where he used thicker material to give it the desired projection."

RIGHT

Fireplace constructed from Cold Spring Sierra White rip-rap features a cozy stone seating area near the firebox opening.

So why does Archer, along with countless others, insist on natural stone for fireplace construction? "I think people who are building new homes or remodeling want it done right and will spend a little extra money to get the real thing," Ashton said. "You can put any name on artificial stone you want - faux, manufactured, imitation or engineered - it still comes back to the same thing: it's not the real thing. If they're going to spend the money to put up stone, I believe that they feel they're cheated if they're not getting real stone."

According to Ashton, knowing the market is important to satisfy customer preferences. "I buy all the veneer for the company, and I'm always doing market research to make sure we have what our customers want," he says. "The brown shades are the [trendy] colors [in Southern California] and have been for a few years. In the mountains, the darker colors are in demand."

Granite Centerpiece

Dominating the rear quadrant of a California guesthouse located in Raymond, Calif., is a massive fireplace. Made of Sierra White rip-rap from Cold Spring Granite Company's nearby quarry, the fireplace features a cozy stone seating area around the outside. "We made a fourinch thick seat that wraps from the front of the fireplace back into it - it coves in about six feet," said Mark Mansfield of Cold Spring Granite. A granite flagstone floor covers the area from the front of the seats to the

fireplace. Above the firebox is a recessed area for decorative accessories.

"The design is an existing one based on a job we'd done about 20 years ago," Mansfield explained. "Basically, I'd sold the product to a customer who wanted to build his own fireplace. Before we began, he gave me pictures of the original and we used them as a basis for the design."

This current version is somewhat larger than the original, containing about 22 tons of rip-rap, ranging from four to 10 inches thick. To accommodate this sizeable structure, architect Michael









Photo courtesy of Marxer Photography

ABOVE: Decorative carvings in the Indiana Buff

Limestone accent hunting lodge motif.

RIGHT TOP:

New Hampshire Lake Residence chimney cap. A thin layer of mortar is spread on the top part of the pillars to make sure the load was evenly distributed. The straps pictured are made of Kevlar-they're flexible and are covered with a fabric that doesn't damage the stone.



Photo courtesy of Noldesign

RIGHT BOTTOM: Lit interior view of fireplace inside New Hampshire Lake Residence under construction.

Karby and contractor Jake Koop Canam had to engineer a suitable base and supporting structure. The fireplace was built on 15 yards of concrete foundation, six feet deep. On top of this foundation is an inner wall constructed from concrete masonry units. The arched cove was built out of a steel structure and the granite was then tied to the structure.

Old World Charm

Because the owner of the Upper Warson Residence in St. Louis is a hunting enthusiast, he challenged the architect to design this dwelling incorporating the characteristics of an Old World hunting lodge and the informality of a 300-year-old English country cottage. To complete the effect, massive stone fireplaces – five in all – became an integral part of the design. They chose Indiana Buff limestone, installed by Spencer Brickwork Inc., for the interior fireplaces.

The largest fireplace, which serves as the focal point of the 29foot-by-52-foot vaulted living room, was inspired by the residential fireplace designs of English architect Edward Lutyens. The stone facing – featuring an outdoor scene and ducks – was carved by the Arthur J. Lager Monument Company and reaches 14 feet tall and 10 feet wide, with some pieces weighing up to 1,300 pounds.

At mantel height, the fireplace angles in on each side as well as from front to back all the way up. A massive firebox approximately six feet by six feet and 38 inches deep connects to a large stone chimney that rises to a height of 38 feet. The exterior chimney uses tumbled, split face Cottonwood and Silverdale from Raineri Building Materials Inc.

In Harmony with Nature

Roger Nold Sr., chief architect and principal of Noldesign, has a passion for designing and building homes that incorporate natural elements. For the New Hampshire Lake Residence, he used natural stone reclaimed from the local area and unshaped trees to



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ABOVE

Photo courtesy of Champlain Stone Ltd.

Chimney at New Hampshire Lake Residence is surrounded by a glass skylight and beams fashioned from whole trees. create a huge fireplace and chimney as centerpiece for the home. Their biggest challenge: creating one of the single largest chimney caps ever used on a residence.

"We are architect-builders, so we have the flexibility to design and execute all of our own projects," Nold said. "That chimney, which is 145 tons, was conceived as a round, tapered cylinder from Day One, but we considered many methods of creating a cap because of the chimney's size and the need to keep the weather out." Nold looked at precast concrete and cast-in-place concrete, but finally chose Granite Industries of Vermont to engineer a custom cap using natural stone.

The 11-foot diameter cap weighs 14,000 pounds - more than six metric tons - and features a slight pitch on the top so the water can run off. "Then we needed a drip fabricated on the edge so that the water would drip away from the chimney," Nold added. "It has an interesting profile on the edge, a positive pitch and then a reverse pitch, which transitioned into a drip that was actually carved out of the bottom of the piece itself." Stone pillars support the massive cap approximately 18 inches above the chimney to provide circulation for the flues, in addition to good draw for the smoke.

It's quite possible that it could have been less expensive to use prefabricated concrete for the cap. "We looked at all the alternatives and, in the end, it wasn't about cost, though there wasn't really a significant difference in price," Nold said. "The stone

LEFT:

A blend of Corinthian granite roughly squared/roughly rectangular and South Bay quartzite roughly squared/roughly rectangular quoining for the firebox.



SET IN STONE

Photos courtesy of Martin Cooney

When a fireplace needs custom touches, such as molding or intricate design work, homeowners and contractors call on architectural stone carvers like Martin Cooney. "I love doing fireplaces because they are the centerpiece of the room, which is often at the center of the house," he said. "They draw people like a magnet, especially when there's a lit fire inside."

Cooney works from plans provided by interior designers and architects, but more often than not, clients will bring photos of a fireplace they've seen in another residence that caught their eye. "Often people will see something in a magazine and say, 'I want this fireplace,'' he explained. "Though the dimension of the firebox and the space available ultimately dictates the finished design, I try to keep the proportion so it resembles the picture."

For most fireplaces, the mantle is the focal point of the fireplace because it's typically at eye level. "That's usually where people want the detail," Cooney explained. Before anything goes up vertically, he always lays it out horizontally. Everything is set out on the floor and all of the corners are aligned so it's a smooth operation when it's finally put together. "It's too late once you decided to put stone on stone and it's a little bit out," he said.



ABOVE: Architectural sto

Architectural stone carver Martin Cooney stands beside a Winterset limestone traditional design fireplace, Ascot, Colo.



During Cooney's training at Bath College, he learned to do some amazing things with just hand tools. But he also utilizes more modern devices, namely flush cutters, spinner pads, pneumatic chisels, and angle grinders to help meet the demand for his work. "This allows me to compete favorably with the extremely expensive programmable machines – a vast array of routers and bits," he said. Unlike programmable cutters that have no checks and balances, he can check every aspect, measurement and angle of a job as it progresses.

How long does it generally take? "It's a fairly speedy process," he explained. "I can do most fireplaces in a week. If it's very elaborate, it might take a bit longer."

ABOVE: Contemporary design fireplace of Winterset limestone located in Aspen, Colo.

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Photo courtesy of Marxer Photography

Photo courtesy of Buechel Stone

TOP LEFT:

Chilton Heritage Blend from Buechel Stone provides the look of full-size stone without the weight.

TOP RIGHT:

Upper Warson Residence chimney captures look and feel of English country cottage.

BOTTOM RIGHT:

South Bay quartzite blend of mosaic pattern, ashlar, flagging and South Bay quartzite fieldstone wall stone. Special order South Bay quartzite flagging used in hearth. became our choice when we considered other materials and looked at the house. It didn't seem that an exposed piece of concrete was appropriate with the colors, textures and materials planned for the structure."

Veneer Makes Inroads Indoors

With the advances in fireplace technology, including gas and direct-vent wood-burning fireplaces, builders are now looking for a natural, lightweight facing that can be used on a variety of fireplace enclosures. "Our thin veneer gives you all the colors, textures and benefits of real stone without the weight," said Mike Ruetz of Buechel Stone. "Now there's an alternative."

Structurally, you no longer need a conventional foundation for the fireplace. In the past, you'd typically build the firebox and chimney outside the home. But using a zero-clearance fire-







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ABOVE: American granite mosaic pattern shaped by mason on site.

place with lightweight veneer, you can put the fireplace just about anywhere you want on a standard floor, usually without additional reinforcement. "Less expense for foundational support reduces new construction costs, and the ease of installation reduces the labor costs generally associated with natural stone installations," added Jane Bennett of Champlain Stone Ltd.

Typically, Buechel's veneer stone is 3/4- to 1-1/4-inch thick and can be applied easily to drywall or cement board. If you use cement board, you can generally skip the first scratch coat of mortar. With drywall installations, metal lath is applied over the drywall, followed by a scratch coat and then the stone is placed on the wall. For ease of installation, Buechel and many other veneer suppliers offer ready-made, 90degree corners. "We can do returns and custom corners, too, such as a 135-degree angle," Ruetz explained.

REFERENCES:

Buechel Stone Corp. Chilton, Wis. (800) 236-4473 www.buechelstone.com

Champlain Stone Ltd. Warrensburg, N.Y. (518) 623-3088 www.champlainstone.com

Cold Spring Granite Co. Cold Spring, Minn. (800) 328-5040 www.coldspringgranite.com

Martin Cooney, Architectural Stone Carver Woody Creek, Colo. (970) 309-2774 www.mcstonecarver.com

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Sepulveda Building Materials Laguna Niguel, Calif. (800) 394-4726 www.sepulveda.com

Spencer Brickwork Inc. Ellisville, Mo. (635) 391-4071 www.spencerbrickwork.com

According to Buechel, natural veneer stone is durable. unique and will add real value to a home. When compared to other traditional building materials such as wood and vinyl, natural stone is virtually care-free and will endure for the life of the home. "Manufactured stone products have a limited lifetime for colorfastness and durability. And if scratched, chipped or broken, the exposed surface shows the concrete matter it is made from," Bennett said. "When natural stone is broken or chipped, you see more beautiful stone."

With the wide variety of veneer stone and blends, choices tend to be based on personal

Photo courtesy of Sepulveda Building Materials



LEFT: Detail of custom dry stack made with Sepulveda's Lompoc stone.

and regional preferences. "We sell a lot of our Chilton, which features earth tones, reds, beiges, buff colors," Ruetz said. "Rustics are also popular, including our Seam Face Weather Edge Stone and our signature Wisconsin Weather Edge.

In and around the Adirondack region of New York, Champlain Stone's granites are very popular. "American granite and Summit granite feature earth-tone colors and weathered or rustic surfaces; these are perfectly suited for the log- or timber-frame homes and the great camp style that is synonymous with the region," Bennett said. "Some of the older lake-

side estates have undergone restoration or expansion and require stone that matches or complements the original, native stone. Our Corinthian and Van Tassell granites, with their full-color ranges, are typically chosen and also present a more refined or sophisticated appearance."

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Natural Stone Provides Instant Upgrade for Flooring

By Jodi Paper





WIDE VARIETY FROM which to choose, natural stone is a natural choice when it comes to flooring. Whether in the home, office, building lobby, or public facility such as a museum or shopping mall, there really is no better option for one's design. With natural stone, there is something for everyone. And what once was only considered for use in upscale kitchens and

bathrooms, or for commercial spaces, natural stone is beginning to be viewed as a limitless, sturdy, practical and quality option for any type of interior flooring application.

The types of natural stone that work in flooring applications range from granite and slate to travertine, sandstone and limestone. And among each type of stone there exists numerous varieties, making for endless options.

Seeing Red

One of these options is the Colorado Red sandstone, exclusively quarried out of the Lyons formation, and manufactured and supplied by Lyons Sandstone. Owned and operated by Brenda and Bernard Buster, the company is a family-owned business that sells to stone yards and fabricators. The quarry produces approximately 10,000 to 15,000 tons annually; while this may be a smaller quantity com-

ABOVE:

The interior stone at Maryville Municipal utilizes Tennessee Light Rose, Tennessee Dark Rose and Champlain Black border.

LEFT:

In some cases, workers quarry Colorado Red sandstone by hand using bars and wedges.

RIGHT

Colorado Red sandstone, a domestic product from the Lyons Sandstone Company, is quarried by hand using bars and wedges. The stone is known for it's quiet red tone and its incredible durability.





pared to larger quarrying companies, the quality itself is beyond compare.

"There is a lot of misconception that sandstone is soft," Bernard Buster said. "But Lyons Red sandstone is one of the hardest, most durable sandstones on the market." The stone is a quartzite with a high silica content - averaging 95 percent. "It has an extremely low absorption rate that brings a hardness and durability to indoor flooring applications," he added. The stone stands up well in high-traffic areas such as kitchens, bathrooms and staircases. It is susceptible to stains, yet at the same time its low-absorption rate makes it highly resistant to them.

Lyons Colorado Red is a ledgestone, or benchstone, that lies naturally in layers. "It is a hand-quarried product, each piece pried out with bars and wedges," Bernard Buster said. "Only when the stone has been separated completely from the ledge in which it resides, do we engage the forklift."

"Splitting Lyons Red sandstone from the bench or ledge is very much like separating slices of frozen bread," Brenda Buster added. "If you just pry away on a corner, you'll very likely just break that corner off. But if you work your way around the pieces, gradually they will separate into perfect slices. It takes patience and a bit of finesse."

A finesse that quietly carries over into the design of a room, the sandstone has an inherent beauty that adds to the overall look of a space. The stone can be cut into tiles, which, because of their natural cleft, work particularly well for flooring. Some larger options for tiling include eight inch by eight inch and 12 inch by 12 inch, with a minimum thickness of one-half inch. Bernard Buster pointed out that "it is a similar thickness to a ceramic tile, so it would have the



same flexibility and can be used in the same applications." An alternative to traditional tiling would be to lay random flagging, artistically fitted, with random joint lines.

Matte & Muted

"Natural stone provides a flexibility of design, durability of material and the look of quality" said Dan Shannon, a partner and principal architect at Moed de Armas & Shannon. "We are able to achieve our design goal because of the material."

The lobby at 340 Madison, a commercial building located in a well-known area of Manhattan, is a perfect example of the infi-







nite potential of natural stone for interior flooring. For this project, Shannon and his team used Alabama Silver Shadow, an oolitic limestone provided by the Alabama Stone Company. Ron Vetter is the president of the company, as were his father and grandfather before him.

"Alabama Silver Shadow has been quarried since the late 1800's, and now we are bringing it back on a national scale," Vetter said. The stone is quarried underground over 25 acres that has been opened up for the extraction and production of the stone, which Vetter describes as a warm, tactile, inviting material that consists of a light gray to white background with delicate charcoal-colored streaks. "It is a creamy, inviting material," he said. "It's fun to watch people looking at the stone. They always have to touch it."

Alabama Stone Company can cut the material to whatever sizes are needed for a project. In the case of 340 Madison, Shannon used 40-inch-by-40-inch tiles, 1-1/2 inches thick. For a residential application, Vetter suggests a thickness of 1/2 inch set in concrete or some other traditional tile setting method.

In terms of sustainability and maintenance, Shannon utilized impregnating sealers, and for cleaning suggested a mild detergent and water. "When used in the right application, stone has a very good maintenance record," he said.

"We are seeing a trend of people choosing natural stone," Vetter said. "They are looking for matte, muted finishes that are comfortable, as opposed to inyour-face, sparkling tones." He added that, in a commercial application, natural stone is "soothing for workers. It makes the environment so much less stale and static, and so much more comfortable, engaging and calming."

The French Country Look

Hollie Ruck works at Ruck Brothers Brick Inc. of Ft. Meyers, Fla., which specializes in the sale

ABOVE:

Alabama Silver Shadow stone, produced by Alabama Stone Company with its honed finish adds warmth to this highend lobby at 340 Madison Avenue.
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Photo courtesy of Tennessee Marble Company

ABOVE Polished cut flooring Maryville Municipal Building

and distribution of quality masonry products. Ruck agreed that the current trend is toward natural stone. "People are looking for something that is not so formal, and gives more of a rustic, French Country look." She cited slate as a popular flooring material that fits the bill and wears particularly well.

She also sees a trend in the type of finish applied to the material. "A brushed finish is very popular because it gives an antique, shabby-chic appearance and a three-dimensional feel." Honed and tumbled finishes also are popular, she said.

Then there are the different types of edging. "The type of edge detail should be coordinated with the finish," Ruck added. For instance, a chiseled edge works well with a honed and unfilled finish. A tumbled finish is most effective with a softer edge.

As far as sealers are concerned, Ruck prefers a penetrating sealer to an acrylic. "Acrylic is like nail polish. You apply a coat and it lays on the surface of the stone giving it a glossy and flat appearance." She also noted that the wear on this type of sealer would be more obvious in areas used most and requires more frequent reapplication. On the other hand, when applied to a surface, a penetrating sealer does just that - it penetrates the stone. "Although part of the sealer remains on the stone, you don't see a change in the surface, and the finish of the stone lasts longer," she said.

Durability for the Ages

Perhaps the ultimate space, the epitome of the beauty, durability and strength of natural stone flooring is the recent renovation of Grand Central Station Terminal in New York. Originally constructed between 1903 and 1910, the renovation of the space was completed in 1998.

Monica Gawet is the president of Tennessee Marble Company, a family-owned quarrier and fabricator. The company provided the Tennessee Pink marble that was integral to the completion of Grand Central Station's renovation, which replacing cracked included stones throughout the expansive space and the addition of the West Grand Staircase. After looking at more than 25 quarries for the right material, the architecture firm of Beyer, Blinder and Belle, which led the project, discovered that Tennessee Pink was the perfect match. Although at the time, Gawet's company wasn't actively quarrying, the Grand Central Station renovation gave her the perfect incentive to start. For the project, the company extracted 3,000 to 4,000 feet of material from the ledges of the quarry alone. Gawet was amazed with the whole process. "To have a stone 75 to 80 years later that matched is a very special thing," she said.

Particularly impressive is the appearance of the vast floor over time. "Grand Central Station is an unbelievable space," Gawet said. "For a million people walk-



ing through there every week, the floor has obtained an incredible natural patina. I never cease to enjoy the station's expanse."

Tennessee marble dates back to the 1800's, when it was first extracted. Several varieties of the material exist, including a range of colors from a blushing pink (Tennessee Pink) to a burgundy (Tennessee Dark Rose) to a chocolate brown (Tennessee Cedar). And while the beauty of the stone (and many other natural stones) is undeniable, Gawet stressed, "It is wise to dig deeper than aesthetics when considering a flooring material. "Unlike wood or carpet, with stone there are so many advantages of durability and easier maintenance."

Compared to man-made materials, natural stone is a

ABOVE: This dining area utilizes Tennessee Marble's Vermont Verde Antique, a greenish-black flagging.





ABOVE:

Natural stone can creates a seamless, flowing design from horizontal to vertical surfaces. Here Algonquin honed limestone was used for the walls, while Eramosa limestone was used for the flooring material.



choice product. "Natural stone has a beautiful and rich look that can't be duplicated in man-made materials," Gawet added.

The 'Feel Good' Flooring

Tom Stobie, president of Owen Sound Ledgerock Limited, agrees with Gawet. The company quarries and manufactures dolomite, a sedimentary stone that has a flurry pattern when cut. Consisting of earthy tones such as taupes, grays, browns and blacks, dolomite is a layered stone that has become popular in residential projects.

"For years, granites and marbles were popular," Stobie said. "But with beiges, taupes and browns, you get a warmer feel and a little bit of a range of colors in tiles, making for a very attractive floor."

While Stobie stated that most materials have their advantages and disadvantages,

RESOURCES:

Alabama Stone Company Russellville, Ala. (800) 878-2850 www.vetterstone.com

Lyons Sandstone Lyons, Colo. (303) 823-5659 www.lyonssandstone.com

Moed de Armas & Shannon New York (212) 809-0100 www.mdeas.com

Owen Sound Ledgerock Limited Owen Sound, Ontario, Canada (519) 376-0366 www.ledgerock.com

Ruck Brothers Brick Inc. Fort Myers, Fla. (239) 334-8022 www.ruckbrick.com

Tennessee Marble Company Friendsville, Tenn. (865) 995-9500 www.tnmarble.com

when it comes to all-around quality, natural stone is the winner. "Natural stone is better than ceramics, in flexibility, in size. Designers and architects can design and mix sizes to generate custom patterns in floors," he said.

Ultimately, every stone is different, offering varying strengths and quality. "There are so many choices available – color, texture, finish, pattern, cut – it can be overwhelming," Gawet said. "So have fun with it, but do your homework."

One more advantage of natural stone flooring not to be overlooked is the "green" issue. "Using natural stone, you are building in a way more environmentally conscious," Buster added. "You are likely using less energy and creating less pollution."

Gawet felt similarly about natural stone: "Using natural stone is a great way to feel good about any building project." ◆

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Filippo Brunelleschi & Florence's Iconic Dome

By Pennie L. Sabel • Photos courtesy of Pennie Sabel

ILIPPO BRUNELLESCHI ISN'T ONE OF THE BETTER-KNOWN, early Italian Renaissance architects; however, his legacy – the iconic dome of the Cathedral of Santa Maria del Fiori – is symbolic of Florence still to this day. Brunelleschi was born in 1377 in Florence, the son of a prosperous lawyer. His father wanted him to follow in his footsteps, but Brunelleschi had his own ideas. Having an ability to solve mechanical problems, he apprenticed with a goldsmith

and clockmaker, where he studied mathematics, mechanical devices and the science of motion with its complex gears, wheels and weights. There he built a number of unusual clocks, including one of the first alarm clocks.





LEFT:

Filippo Brunelleschi sits on the Piazza del Duomo gazing up at the architectural wonder that he created.

OPPOSITE PAGE LEFT: The skyline of Florence is immediately identifiable by its iconic dome that has towered over the city since 1436.

Later in life, Brunelleschi, with his sculptor companion Donatello, went to Rome to study the ancient Roman architecture. They studied the proportions of columns and pediments, and determined the measurements specific to the three architectural orders - Doric, Ionic and Corinthian - that are governed by precise mathematical ratios. They also studied the ancient Roman methods of vaulting, as well as the dome of the Pantheon that would prove to be very useful when Brunelleschi began constructing the dome for the new cathedral in Florence.

On Aug. 19, 1418, a competition was announced in Florence for the design and vaulting of the dome to be built over the city's cathedral, which had been under construction for more than 100 years. The original design called for a grand octagonal pointed dome, which would be the highest and widest ever raised without support from buttresses; however, no one knew how to build it. The planners had faith that, in time, someone would come forward with the solution to this architectural and engineering puzzle.

For such competitions it was customary for participants to build models so the officials

courtesy



ABOVE:

The interior of the dome is the spherical shell that spans 143 feet in diameter and features the fresco of the Last Judgement by Giorgio Vasari and Federico Zucchari. On the climb up to the top of the dome, between the shells, you can stop and see the work of art up close.

RIGHT:

The great dome peeks out from behind the front of the Cathedral of Santa Maria del Fiori. At the top of the lantern, tourists who made the climb give perspective to the lantern. could visually inspect what was being proposed. Brunelleschi's elaborate model was composed of brick with wood carvings done by Donatello and built in a courtyard near the cathedral – it spanned six feet and stood 12 feet high. The finalists in the competition were Brunelleschi and Lorenzo Ghiberti (sculptor, 1378-1455). After much political haggling, because Brunelleschi refused to divulge the technical details of his design, he was put in charge of building the dome.

Brunelleschi's design was unorthodox in that it required no centering, such as wooden support structures, to hold the stone and brick in place while the mortar cured. He knew there was not enough timber in Tuscany to build the scaffolding needed to support such a framework for the proposed, 143-foot-diameter dome. Using the double-walled Pantheon's dome as inspiration, Brunelleschi's design consisted of two, self-supporting shells; an inner spherical dome spanning the diameter; and a parallel outer shell to protect it from the weath-





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ABOVE: Detail of the carving on the Carrara marble buttresses. er. The shells would sit on the cathedral's octagonal drum – the vertical wall that carries the dome – and the dome itself would be crowned with a lantern, or windowed superstructure, that provides the dome's balancing force.

With his design approved by the cathedral's officials, Brunelleschi had to go about proving that it could, in fact, be built.

The cathedral walls are 140 feet high and the drum an additional 30 feet. The vaulting begins at 170 feet above the ground. The width of the inner dome tapers from seven feet at the base to five feet at the top; the exterior shell is two feet at the base, tapering to one foot at the oculus. The shells are supported by 24 circular stone ribs that are seven feet thick at the base and taper to five feet at the top, meeting in an open stone compression ring. The shells are built of stone for the first 46 feet, with lighter weight brick laid in

a rotating herringbone pattern the rest of the way up.

The brick used are not the typical rectangular building blocks, but of Brunelleschi's design, consisting of rectangular, triangular, dovetailed, and bricks with flanges and special shapes to fit the angles of the octagon. In all, about four million bricks were used. To resist the outward thrust, a series of interlocking sandstone rings were embedded horizontally in the masonry, holding the structure together like a barrel.

The dome was to be built of brick, sandstone, limestone, marble and timber. At the time, sandstone and limestone quarries were plentiful around Florence, and the marble was brought from Carrara, more than 80 miles away.

Brunelleschi's next challenge was to get the building materials 170 feet to the top of the drum. This was no small task, for the beams in the sandstone rings alone weigh approximately 1,700 pounds. He again put his remarkable mechanical skills to work and designed a hoist with complex meshing parts and the world's first reverse gear clutch that allowed oxen, rather than men on a tread wheel, to raise and lower a load of stone or brick. The hoist required a specially made rope that was 600 feet long and weighed a thousand pounds.

To raise the huge blocks of stone, Brunelleschi contrived a special mortise and tenon hanger. It was known as one of the most remarkable machines during the Renaissance; other architects and engineers, including Leonardo da Vinci, studied it. By the time the dome was completed, the oxen plodded for thousands of revolutions and raised approximately 70 million pounds of materials.

Getting the building materials up to the work area was one

thing; moving the heavy blocks into position was yet another. Brunelleschi once again put his mind to work and designed a crane to move the loads laterally once they reached the top. The crane was built of eight pine beams, two elm trees and screws carved from walnut. The wooden mast was surmounted by a horizontal crossbeam that pivoted and consisted of screws, slideways and a counterweight. One screw moved the counterweight, while the other manipulated the load that was raised or lowered by a turnbuckle, allowing precise placement of the stone.

Layer by horizontal layer, the great dome rose over the city of Florence. Altogether, it took 140 years from the time the foundation stone was laid to the consecration of the Cathedral of Santa Maria del Fiori. On March 25,



LEFT:

The lantern at the top of the dome has eight hollow buttresses that line up with the eight ribs. The lantern acts as the common keystone.

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RIGHT One of the eight ribs that form the octagonal shape of the dome and structurally support the masonry work.

1436, Pope Eugenius IV consecrated the cathedral at the Feast of the Annunciation, and the dome, deserving its own ceremony, was consecrated on Aug. 30, 1436, after being under construction for 16 years. Yet it still was not finished - the lantern was yet to be constructed on the top of the dome.

By this time, the machines used in the construction of the dome itself had been removed from the interior of the cathedral. Once again, Brunelleschi's engineering genius was called upon to design and build another hoist and crane to move the pieces of Carrara marble to the top of the dome to build the lantern. The octagonal lantern sits on a marble base supported by the top sandstone chain. Eight hollow buttresses line up with the eight ribs of the dome and support 30-foot pilasters that are topped with Corinthian capitals. The lantern acts as the common keystone for each of the arches of the vaulting. Topping the lantern's dome is an eight-foot bronze ball and cross that stand 350 feet above the city streets of Florence.

Unfortunately, Brunelleschi did not live long enough to see the lantern completed. He died





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RIGHT

Specially designed bricks set in a rotating herringbone pattern were used for the top part of the dome to reduce the weight.

BELOW LEFT:

The iconic dome as seen through the windows of the Museo dell' Opera del Duomo, the museum where treasures from the Duomo are sheltered for safe keeping.

BELOW RIGHT:

There are 463 steps leading from ground level to the lantern atop the dome that are between the inner and outer shell. But the view from the top is well worth the climb.







AUTHOR'S NOTE

If you are interested in a more detailed study of the construction of the dome, read *Brunelleschi's Dome: How a Renaissance Genius Reinvented Architecture* by Ross King. The book was used as a reference for much of the material in this piece. on April 15, 1446, at the age of 69. He was laid to rest in the crypt of the cathedral under a simple marble slab.

He was called a genius in his own time and it was his work that helped to bring architects from being viewed as mechanical laborers to esteemed artists. In some ways, his work on the cathedral has never been surpassed. At 143 feet in diameter, it remains the largest masonry dome ever constructed – the dome of St. Peter's Basilica in Rome is 138 feet in diameter, St. Paul's Cathedral in London is 112 feet in diameter, and the U.S. Capitol Building dome is 95 feet.

There is a statue of Brunelleschi across from the cathedral. Seated and holding the tools of his trade, he gazes up at the dome as if keeping a watchful eye on his work of art. \blacklozenge



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Symposium Showcases Diversity of Minnesota Stone

By Todd Messelt • Photos by Tim Heitman

HIS PAST SUMMER, ARTISTS from China, Egypt, Finland, Germany and Italy descended on a patch of grass near downtown St. Paul, Minn., joining six local stone carvers in transforming the space into a giant, open-air studio. The 14 carvers lived and worked together for five weeks in May and June, making sculptures from Minnesota stone for permanent installation in public locations throughout the host city.

More than 13,000 observers visited the temporary work site on the campus of Saint Paul College to witness the symposium, dubbed "Minnesota Rocks!" The project was initiated by Public Art Saint Paul (PASP), a private, non-profit group that promotes civic art in the state's capitol city.

Following in the tradition of the first international stone carv-









ing symposium organized by Austrian sculptor Karl Prantl in 1959, the symposium's lofty goals were to "promote international understanding through stone carving, educate the public, engage artists in shaping the city, and create artworks for public spaces," explained PASP President, Christine Podas-Larson. The event also served as a valuable educational and public relations tool for Minnesota's stone quarrying and fabrication industries, along with their allied trades and professions.

"By highlighting the beauty of Minnesota's stone and drawing together quarries, suppliers and other industry vendors, we hoped to generate greater awareness of its qualities and uses," said Steve Hedberg, CEO of the event's primary sponsor, Twin Cities-based Hedberg Landscape and Masonry Supplies. "We heard all kinds of people saying things like 'that stone is gorgeous!', and heightened awareness means increased demand for stone."

It's doubtful the magnitude of the event could have been achieved without such strong support from the local stone industry. For example, many of the state's quarries supplied and delivered free blocks of stone, in addition to making considerable cash contributions. Other in-



kind contributions included everything from tools provided by Granite City Tool of St. Cloud, Minn., to free housing donated by Macalester College in St. Paul.

The St. Paul-based 3M Corporation even funded a Minnesota Rocks! curriculum, complete with lesson plans, study guides and "curriculum trunks" filled with books, stone samples, geological maps and other relevant earth science materials. The curriculum was introduced in 30 Minnesota K-12 schools and will be used well into the next decade.

Clean Slate

Participating artists were asked to arrive at the symposium without any ideas regarding subject matter or medium. Rather, they were asked to seek creative inspiration and to choose their block of stone during the event. Here's a sampling of what the symposium yielded: Artist: Lourdes Cue

Residence: Minneapolis, Minn., and Mexico City, Mexico

Sculpture: "Water of Stone"

Medium: Mesabi Black Granite

Quarry: Cold Spring Granite

The paradoxical supposition posed by the title of Lourdes Cue's sculpture may challenge the reader's imagination, but the inspiration behind "Water of Stone" is rooted in real experience, the artist explained.

"I'm interested in creations that arise out of specific geographies that surround my experience as an artist," Cue said. "For the last 20 years, I've been having an organic conversation with the Minnesota landscape, and my intention is always to find the voice that is already within the landscape. Water of Stone is a product of this conversation, and it's inspired by the idea that the earth has memory."

The seven-foot-long sculpture offers the semblance of a small boat or vessel topped with a smooth, concave bowl designed to hold water. The short, jagged, intersecting lines of the work's outer surface are meant to recall the motion and sensation of splashing water.

Since she needed a medium that could hold water, her choice of stone ruled out many of the varieties made available to artists at the symposium. "To be honest, I hardly work with sedimentary stone," she said. "I like the challenge of a real, alive and stubborn dialogue with igneous stone."

So she chose Black Mesabi granite – which is actually a type



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of gabbro – because of its hardness, texture and extremely low porosity. A Cold Spring Granite exclusive, the medium-grained gabbro is grey to black in tone, and is commonly used for interior and exterior building applications, as well as for paving blocks and monuments.

"International events like Minnesota Rocks! are always a great learning experience," Cue said. "It was quite a challenge to be the only woman artist in the symposium, and sometimes it was hard to navigate through a space of pure testosterone. But it was also quite an honor to be part of a wonderful stone adventure." Artist: Salah Hammad

Residence: October City, Geza, Egypt

Sculpture: "Family Hug"

Medium: Dolomitic Limestone

Quarry: Vetter Stone Inc.

As an internationally acclaimed sculptor, Salah Hammad's commissions have led him across Europe, Asia and the Middle East. With his visit to Minnesota, Hammad was able to add a U.S. city to his list of permanent installations.

In addition to representing Egypt in the 51st Venice Biennale last year, Hammad's accomplishments include the Italian Ministry of Culture's Creative Arts Award in 1993 and the Egyptian government's 2000 Courage Award. Minnesota Rocks! was the 15th international sculpture symposium to which Hammad has contributed.

His sculpture for the event – an abstract piece titled "Family Hug" – is composed of three, simple geometric shapes. These shapes, together with the sculpture's uncomplicated detailing, are meant to recall the energy of "a family when they are meeting after a long time or when a mother hugs her sons," Hammad said.

The sculpture was carved from blocks of "Glacier Buff" dolomitic limestone from Vetter Stone Inc., which owns quarries in Minnesota and Alabama. For more than 100 years, the third-generation, family-owned quarrying and fabricating company has been mining dolomitic limestone in the Mankato-Kasota stone district, a 12-mile corridor that lines the Minnesota River Valley between the cities of Mankato and St. Peter in southern Minnesota.

The light gold Glacier Buff is Vetter's most popular variety of dimension stone, according to Chris Wedholm, the company's director of sales. "It's a type-2, medium-density limestone that is more consistent and has less extremes. We provided a clear block with color that is consistent from bottom to top."

Hammad, who has worked with similar varieties of limestone from Egypt, says the Vetter block was an "easy stone to work with. It's very soft and is a good looking stone for monumental sculpture."

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Cumberland Mountain Stone Co. • 389 Flagstone Lane • Crossville, Tennessee 38557 Phone: (800) 334-7719 • Telefax: (931) 484-6329 Aritst: Sakari Peltola

Residence: Littoinen, Finland

Sculpture: "Weatherman"

Medium: Dolomitic Limestone

Quarry:

Mankato Kasota Stone, Inc.

The St. Paul suburb of St. Anthony Village, Minn., sponsored Sakari Peltola's participation in honor of its "sister city" relationship with Salo, Finland. Peltola's sculpture, titled "Weatherman," was installed in the city's newly developed Salo Park this past September.

Peltola has participated in numerous group and solo exhibitions in museums and galleries throughout Finland. His larger sculptures have been installed in a plethora of outdoor sites, ranging from civic plazas to forests and even a landfill. Altogether, he has participated in six international stone carving symposiums, including four in Finland and one in Taegu, South Korea, which began immediately following Minnesota Rocks!

"Weatherman" is comprised of three individual shapes: a cloud, a human figure and a suitcase. The components were carved from blocks of dolomitic limestone, some of which were provided by Mankato Kasota Stone.

Founded by Irish-born stonemason T.R. Coughlin in 1886, the fourth-generation, family-owned quarrying and fabrication business is a division of the Mankato, Minnesotabased Coughlin Companies.





Although Peltola has worked in a variety of media, the bulk of his recent work has been in granite, "so the [dolomitic] limestone was really soft and relaxing to work with," he explained.

"Together, the individual objects form a rhythm from big to small," Peltola continued. "Also, the location of the sculptures near a pond on the north side of Salo Park has a special role. The cloud is on top of a hill, and the figure with his suitcase is situated lower next to a walking path. So there are both vertical and horizontal levels, and people can experience the sculpture either closely or from a distance."

Artist: Michael Sinesio

Residence:

Ely, Minn.

Sculpture: "Constructing Friendship"

Medium: Mary Ellen Jasper

Stone Supplier: Cliff's Natural Stone

Michael Sinesio, a self-taught carver and full-time artist, was one of six Minnesota carvers who took part in the symposium. He lives in the small town of Ely, located in the heart of Minnesota's "Iron Range," where taconite mining had sustained the local economy for much of the 20th century.

In addition to woodcarving and making sculptures out of snow, Sinesio likes to work with stone that is local to his northern Minnesota region – one of the reasons why he chose Mary Ellen jasper for his sculpture.

Winter 2006



Explained Sinesio, "I chose [Mary Ellen jasper] because it was a stone that comes from where I live and also because [Granite City Tool] was providing tools I wanted to try and put to the test."

Large chunks of the oxidized jasper stone were cut and set aside decades ago while taconite miners burrowed into deeper iron formations. "It's hard to cut," said Brad Gerlach, vice president of Cliff's Natural Stone. "But you get all that hard work back in its beauty because it takes on a great polish.

"It has fossilized algae stromatolytes, ranging in color from red to green and black," Gerlach continued. "It's milky and very smooth and has an agate look to it." Although the exotic stone hasn't been used much outside of landscaping and the specialty mineral market, Gerlach says his company is preparing to market it for counter and tabletops.

To carve the stone, Sinesio made generous use of a variablespeed angle grinder with diamond-impregnated circular blades and a variable-speed die grinder with diamond-impregnated burrs and cones.

"I also made my own tools on-site using the same equipment," Sinesio explained. "I reshaped carbide chisels to points and retooled them to fit a European pneumatic gun, and also made several split bits to fit the die grinder so I could use strips of felt and buckskin leather to hold my buffing compound for polishing."

Sinesio's sculpture features the faces of each of the symposium's artists and other key participants, appearing in various places throughout the boulder's original dimensions. "I was watching one of the artists who was using a chisel and hitting it with a hammer. I decided to carve the likeness of his hand as a start, and the idea began to develop."

Artist: Lei Yixin

Residence: Changsha, Hunan Province, China

Sculpture: "Meditation"

Medium: Winona Dolomite Limestone

Quarry: Biesanz Stone As one of China's preeminent sculptors, Lei Yixin is used to working with a team. At home, he gets paid to deliver a concept while directing other workers to do most of the actual carving. "This is the first time I've ever carved by myself,"Yixin explained.

The symposium also offered Yixin a departure from his government-commissioned subjects, which often include commemorative themes and subjects, including national heroes, geographic regions or political figures.





Rather, Yixin's Minnesota Rocks! sculpture portrays the head of a tranquil, goddess-like personification with long, flowing hair. Titled "Meditation," the work will be installed in a pastoral setting near a pond in St. Paul's Phalen Park.

The sculpture was carved from Winona Dolomite limestone from Biesanz Stone of Winona, Minn. Quarried within the Southeastern Minnesota bluffs that line the Mississippi River Valley, the magnesiumrich, sedimentary limestone is geologically classified as Oneota Dolomite.

Just like the dolomite quarried in the nearby Mankato-Kasota stone district, the limestone's strength (ASTM Category III) and low porosity make it well-suzited for both interior and exterior building applications.

"Winona limestone is technically a marble, per the guidelines of the Marble Institute of America," explained company president Chuck Biesanz, whose great grandfather Philip Biesanz began mining the stone around 1875. "And because it is truly a marble, it takes a beautiful polish."

Like most of the carvers at the symposium, Yixin noted that the stone's relative softness renders it easy to work with. "I've never worked with this particular kind of stone, but I have worked with similar stones in China." •

> **Todd Messelt** is freelance writer and journalist based in Minneapolis.







Historical Feature

West of the West Wing

By Christina B. Farnsworth Photos courtesy of the Executive Office of the President, Office of Administration, Preservation Office



ABOVE:

Construction of the Dwight D. Eisenhower Executive Office Building (EEOB) started in 1871 and lasted 17 years. Its walls are solid granite, still in fine shape. This view is of the main entrance on the south side facing Pennsylvania Avenue.

OPPOSITE:

Historic interior photo taken prior to World War II. By this time, the interiors had been painted white. Now restored to their original color scheme, many columns are a soft lavender color with robin's egg blue walls. F THE HUNDREDS OF buildings architect Alfred B. Mullet designed, Washington D.C.'s old Executive Office Building is one of only 16 still standing – and it narrowly missed the kiss of the wrecking ball. Sited literally west of the West Wing at Pennsylvania Avenue and 17th Street, it suggests the world's greatest gingerbread house, although it's constructed with solid stone.

A "short-lived national craze" for the French Second Empire style of architecture sparked by well-to-do 19th-century Americans returning from European "grand tours" resulted in the building's design, said Lonnie J. Hovey, AIA, director of preservation and the man in charge of the first of a series of three, two-year projects to restore the building to its original exuberance. He compared the craze to the wildly popular harvest gold and avocado green appliances of the 1970s. And, as with all trends, Hovey said, it was really hot and then really, really not.

In the 1950s, an Eisenhower-appointed commission recommended demolition, calling the building a "soiled Second Empire elephant." As of May 7, 2002, it officially became the Eisenhower Executive Office Building (EEOB).

President Ulysses S. Grant commissioned the EEOB. Hovey said it was the most technologically advanced building of its era and the largest building in Washington, D.C. It originally boasted 553 rooms and nearly two miles of corridors.

Mullet designed the building in 1870. The enormous edifice was Grant's effort to consolidate the Departments of State, War and Navy, all of which had outgrown their original buildings and occupied multiple buildings across Washington, D.C. The four



Historical Feature



phases of construction finally ended in 1888. It took 17 years partly because the demolition of existing buildings was phased so that government agencies stayed in existing buildings near the White House. Then as now, the District of Columbia is built up enough that most building projects involve some level of tear down or gutting. The building cost a little more than \$10 million – approximately \$220 million in today's dollars – but came in under budget.

The EEOB is also a compendium of early adoption: the first hydraulic lift elevator in a U.S. government building and the first refrigerator plant to make ice. The first televised press conference took place in the building – President Dwight D. Eisenhower in room 474 on Jan. 19, 1955. Over the years, the EEOB regularly incorporated new technologies, including indoor plumbing, electric lighting, and telephone and telegraph lines. It also had an advanced ventilation system circulating cool air from the depths of the basement throughout the building. The system was a luxury in the pre-air-conditioning era.

At 662,598 gross square feet, the EEOB consumed more marble than any single Vermont quarry could provide, Hovey said. At the time, glorious marble flooring was an executive perk on par with this era's corner office. Acres of the best and most beautiful marble paved the prestigious second and third floors.

Culled marble was used on the lower floors, and the ground floor received the lowest grade. The current renovation is restoring and replacing the worn flooring buried beneath the vinyl of a previous remodeling. A stickler for historical detail, Hovey is adamant that the new marble tiles

LEFT ABOVE:

The marble was softer than the New York limestone. As the marble wore down, the black limestone chipped along its edges. Renovation covered those original stone floors with black and white vinyl tile. Hovey has supervised the restoration of the floors to their original glory.

LEFT BELOW:

The newly restored black limestone and white marble floor tiles.

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accurately reproduce the original flooring pattern's checkerboard of marble and New York State black limestone. The marble wore more quickly than the limestone, leaving raised limestone edges sporting irregular chips, which is why the floors were probably re-covered in vinyl tile.

Marble and limestone weren't the only natural stones used. The huge building's entire exterior is granite; granite from Fox Islands, Maine, forms the courtyard, basement and ground-floor exterior walls, while granite from Richmond, Va., forms the exterior walls of floors one through five.

Granite was also chosen for the eight, cantilevered staircases in the building – high-tech for their era. The original elliptical designs required costly hand fabrication and cutting. Switching to circular staircases allowed mechanical cutting of standardized treads, which was much faster and less expensive.

In an interesting technology twist, the building featured both coal-burning and wood-burning fireplaces with a variety of marble and wood mantles. The office of the Secretary of the Navy contained both a coaland wood-burning fireplace. Chairs were placed around the more sociable woodburning fireplace; the coal burners were strictly utilitarian appliances.

Hovey said his job "involves preserving the architectural integrity and the historic character of the buildings used by the EOP (executive office properties) staff while making them work to meet current needs." His work also includes minimizing damage and non-reversible alterations to the buildings.

EEOB "has lots of hidden history" that he uncovers all the time. Hovey and crew did not find a rumored golden commode or fancy Italian tile, but they did find the original 1888 Secretary of War bathroom with English Minton tile when they peeled back plywood that covered the walls for 50 years. (Hovey encouraged readers to check out the "Recent Discoveries" section of the EEOB website at www.whitehouse.gov/history/eeobtour.)

The first phase of the three-part restoration should be completed by the end of 2006. The second and third phases will also be completed in two-year phases. Expected completion is 2010, giving the building a fresh start in a new century. •

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Industry News

The New BAC/IMI National Training Center

Opening in early 2007, the new BAC/IMI National Training Center in Bowie, Md., will showcase BAC skills and IMI programs, which include:

- · Pre-job and advanced training programs
- Curriculum and standards development
- Training Management System database
- · Organizing support
- · BAC/IMI apprentice contest
- Masonry Camp
- New product and systems evaluation, plus installer certification
- · Constructability research
- Certification programs
- Instructor certification program
- · Supervisor certification program
- Contractor College
- Professional education for architects, engineers and construction managers
- Industry outreach

The International Masonry Institute (IMI) has an extensive network of training centers and programs serving members of the International Union of Bricklayers and Allied Craftworkers (BAC) and signatory contractors. In early 2007, IMI will unveil the network's crown jewel, the BAC/IMI National Training Center in Bowie, Md. The architect on the project is Stanley Tigerman, FAIA, of Tigerman-McCurry Architects in Chicago, with J. Vinton Schafer of Abingdon, Md., as the construction manager.



Situated on a 25-acre campus between Washington, D.C., and Baltimore, the twobuilding complex includes a 61,000-squarefoot training center and a 45,500-square-foot, three-story dormitory building with recreation facilities, cafeteria, meeting rooms and dorm rooms for 108 students. The two-story training center, which features an open bay to allow for flexible class setups, also has classrooms and design studios.

Not surprisingly, the showcase campus is being constructed of high-quality masonry materials, primarily brick, stone and concrete masonry units. The structural system is reinforced masonry walls with concrete slabs on grade and pre-cast concrete floors.

The completed facility will accommodate more than 2,000 students annually, and the site is approved for an additional dormitory wing. The center's design will allow IMI to expand the craft training programs offered to all levels of craftworkers, from



pre-job apprentices to journeymen and instructors, plus educational programs for the design and building professions, as well as the popular Masonry Camp. The flagship facility also will reinforce training programs at the BAC local level and expand research and development efforts.

"This facility will give us a world-class training campus, and allow us to offer even more to BAC members, as well as to the design and building professions," said BAC President and IMI Co-chair, John J. Flynn. "That is going to strengthen masonry's position in the marketplace."

"The center will provide state-of-the-art instruction, curriculum and materials," added IMI President, Joan Calambokidis.

As anticipation builds for the center's completion, some of the most excited people are those BAC members helping to build it, including employees of Caretti Inc. of Camp Hill, Pa., and Broadcast Design & Construction of Mt. Clemens, Mich.

Caretti foreman, Chuck Bowman, a member of BAC Local 1 MD/VA/DC, appreciates the promise of lifelong learning opportunities that the center holds for all BAC members, including him. "I think about that every time I come to work," he said.

With advanced offerings such as supervisor certification or training in new materials, everyone stands to win, said layout man, Art Feeser, from Local 1, who is "proud" to be a part of it. "The more you know, the more you're worth," he said.

To follow the NTC construction progress, go to www.imiweb.org/_ whatsnew/index.htm. ◆

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Industry Confirms Support for StonExpo East

The StonExpo East show will be held at the Georgia World Congress Center in Atlanta, March 23-25, 2007.

StonExpo East has been launched as a biennial event to fulfill the needs of the industry in the east, and companies from around the world have already committed to this new event. More than 115 companies have signed up for approximately 60,000 net square feet in the show, including many major manufacturers such as Park Industries, Salem Stone, G & L Marble, Z. Bavelloni, Breton, Eurostone, GranQuartz, East West Stone, and Architectural Marble and Granite. A complete exhibitor list and floor plan can be found at www.StonExpoEast.com.

The show will feature more than 200 exhibiting companies who will showcase a variety of slab stone, along with the latest stone products, machinery and technologies. Approximately 5,000-plus fabricators, installers, architects, designers, distributors, builders, retailers, and kitchen and bath specialists are expected to attend.

StonExpo's official sponsors are the Marble Institute of America (MIA) and Natural Stone Council.

Walker Zanger Unveils The Paradigm Washstand

Walker Zanger has introduced the latest addition to its Bathroom Vanity Collection: the distinctive Paradigm washstand. With a clean, exquisite profile that harkens to the tenets established by LeCorbusier and Mies van der Rohe, it helps transform the utilitarian bathroom into a luxury spa destination. Combining bold metal and carved stone, it also perfectly complements the offerings of Walker Zanger's namesake line of stone mosaics.

The goal of understated luxury is perfectly realized, and immediately evident in the Paradigm washstand. An open design of resonating rectangles, it features bold, linear legs and rails of brushed metal, available in either nickel or deep bronze finishes. A stunning solid-stone sink, set within the washstand's top, completes the washstand. The perfect pairing of the carved stone and metal facets creates an unmistakable impression; it's also a testament to the craftsmanship of its construction.

The Paradigm washstand is available in three different offerings, including the subtly-veined Statuary White Marble; organically grained Ash Grey Limestone; and creamy Heylos Limestone. The sink comes pre-drilled to accommodate any standard wide-spread faucets.

Hardwire and Cold Spring Granite Form Alliance

Hardwire LLC, developer of proprietary, high-tensile steel reinforcements and unique valued-added products for a variety of advanced composite and infrastructure applications, and Cold Spring Granite Company, a leading quarrier and fabricator of building stone products, have formed an alliance to co-market their joint technology solution designed for a variety of infrastructure and commercial security applications.

Hardwire ArmorStoneTM incorporates Hardwire's proven, high-tensile steel reinforcement and ballistic- and blast-protective products with Cold Spring Granite Company's granite - nature's most resilient building material. This combination is augmented with proprietary coupling systems and chemistries specifically designed and matched to specific threats, fully-integrated with fastening systems familiar to the construction industry. Intended uses include ballisticresistance panel systems, and infrastructure and Homeland Security protection systems for a variety of public and commercial structures including courthouses, libraries, museums, utility facilities and more.

According to John Hammond, vice president of Hardwire, LLC, his company approached Cold Spring Granite while developing potential solutions for low-cost armoring systems for various branches of the U.S. government and military because they recognized granite as providing certain properties required for these solutions. Hammond said Hardwire recognized the need for architectural solutions that allow architects to seamlessly integrate protection into their designs using defensive devises other than stand-off, restricted access, or reinforced concrete barriers or steel bollards. Further, solutions are needed that allow for retrofit applications of existing structures.

According to Dan Rea, Cold Spring Granite Company's senior vice president of sales and marketing, one of the key advantages of Hardwire ArmorStone is that security doesn't have to be at the expense of design. As compared to other strengthening systems, this product allows architects the opportunity to provide concealed protection that does not impact aesthetics, he said. Further, it is not only durable, but also a green solution. The granite offers users an enduring life cycle, durability, ease of care and maintenance, recyclability, as well as quarry and manufacturing best practices.

Sink Setter™ Introduces Next Generation Undermount Installation Kit

Precision Works Products has introduced several major improvements to its Sink Setter undermount sink installation kit.

Sink Setter professionally installs undermount sinks, from stainless steel to cast iron, under any countertop surface without drilling, gluing, sawing or improvising. With the addition of a new, second Sink Setter size, installation can now be done in either frontto-back or side-to-side configuration, in cabinets ranging up to 48 inches in length or depth. The improved design allows for the easy removal of the sink, without removing the counter top. Additional changes significantly reduce installation time.

Vetter Stone Receives HR Best Practices Award

Employers Association Inc. (EA), has selected three companies to receive its HR Best Practices Award. Among the award winners is Mankato, Minn.-based firm Vetter Stone. The award was presented on Sept. 20, 2006 in Mankato.

EA created the award to identify excellent human resource practices and projects, and to honor the organizations and individuals involved in them. Each year, EA members are invited to submit their programs or practices for consideration, and a group of volunteer executives selects those that best match the award criteria.

For more than a century, stone has been quarried, cut and shipped to sites around the world from Vetter quarries in the Kasota-Mankato stone district of Minnesota. A third-generation family business, Vetter Stone has earned a reputation for consistent product quality, technical precision and personalized customer service.

Vetter Stone suffered high frequency and severity of injury, resulting in high premiums and high medical costs. In addition, employee turnover was very high, resulting in continuous training, excessive absenteeism, material wastage, quality issues and low employee morale.

In response, a proactive safety program has been implemented, which includes employees of all job levels as part of safety committees, posting of results of the company's monthly safety inspections, individual and department safety incentives, a new emphasis on safety awareness, safety training for all employees, and employee recognition. As a result, Vetter Stone has become a better place to work. The company has decreased workers compensation costs, made a safer workplace, improved employee competence, empowered supervisors, improved quality, reduced rework, and improved the company's profitability.

Ruwac Introduces Sump/Slurry Vacuum

Ruwac has launched the latest model in its SPS Sump/Slurry line, the SumpPro[™] SPS 250 Sump/Slurry Vacuum. Designed to collect and separate, the SumpPro includes a powerful return pump for discharging liquids. Easy to use and ruggedly built, the 40gallon capacity sump vacuum is completely portable and efficient.

Ruwac's SumpPro was engineered to collect and separate solids from liquids. A ninegallon chip basket effectively removes chips from solutions, while an optional Micro-Clean filter can be inserted to remove smalldebris, such as sludge. er The switch-operated return pump allows collected liquid to be pumped out of the tank at 38 gallons per minute. A unique tilt-up lid provides easy access to the chip basket and tank, making maintenance quick and hassle-free. Two powerful bypass motors are protected from collected material and provide quiet operation within a silencer hood. Heavy-duty casters provide effortless maneuverability and can be locked for stability. The SumpPro includes an oil-resistant accessory package, and can be customized to fit your application.

The integrated return pump allows quick removal or replacement of filtered liquids, reducing cleaning labor and equipment downtime. With reduced machine downtime and less maintenance, the SumpPro provides



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Industry News

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Granite Shield™ Countertop Stores Investment Opportunity

Sealing Technologies Management Inc., the parent company of Granite Shield and the Tekon[™] Corporation has announced its next expansion of Granite Shield. The company will be opening retail Granite Shield Countertop stores nationwide.

The Granite Shield division, which offers a lifetime, maintenance-free, permanent seal on granite, is currently located in 45 states and in England and Ireland. Granite Shield will be setting up countertop stores nationwide, selling lifetime, pre-sealed, maintenance-free custom and prefabricated granite countertops and vanity tops. Granite Shield currently has 22 authorized countertop store fabricators.

Tom McNall Joins Stone Shop International

The Stone Shop International (TSSI), a U.S.-based, stone franchise business, announced that Tom McNall has joined the restoration division, Stone Restoration Services (SRS), as an equity partner and the director of training, technical assistance and operational support for franchisees. McNall will also serve as a member of the steering committee for TSSI.

As director of Support Services for SRS, McNall will develop and oversee the franchisee training programs and technical assistance for the company.

McNall owns and operated Great Northern Stone, a stone restoration and care business that services Canada and parts of the United States. McNall is also a regular columnist for *Stone*



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Business magazine, a member of the board of directors and a trainer for the Marble Institute of America (MIA). Through McNall's involvement, all training programs provided by SRS will be certified by the Institute of Inspection, Cleaning and Restoration Certification, the association that certifies stone maintenance, restoration and care companies.

Park Industries Announces New Appointments

Park Industries, the largest manufacturer of stone working equipment in North America, announced new appointments within the company. Effective Jan. 1, 2007, Tom Schlough, current president of Park Industries, will be the new CEO.

As a result of Schlough's new position, Pat Mullins, current general manager of Park Industries Architectural Division, will step into the president role. Mullins joined Park Industries in 2002. Prior to joining Park, Mullins was president and CEO of Superior Diesel, and spent over 10 years with HUSCO International as their VP-general manager. In addition, Mullins worked at PriceWaterhouseCoopers as a middle market business consultant and auditor.

In addition, Dean Casad, current product line manager of Park Industries, will be stepping into the Architectural Division general manager role at Park. Casad joined Park Industries in 2004 as director of New Business Development, bringing over 12 years of in marketing management and business development experience. Casad has worked with a wide-range of industryleading companies, including General Mills, NordicTrack, Toro and General Electric. Casad is a graduate of Iowa State University, with degrees in agricultural economics and financial management and holds an MBA from the Harvard Business School.

New Chicago Pneumatic Breakers

Featuring an advanced vibration reduction system, the new CP 1210 handheld breaker series from Chicago Pneumatic Construction Tools offers several innovative features to enhance operator comfort and tool control, as



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Industry News

well as increased power to match the performance of heavier breakers. The 35-pound class breakers are ideal for light-to-medium demolition of floors, pavement, frozen ground and masonry walls, as well as various other service jobs.

Thanks to an improved valve system, the new CP 1210 series provides 20 percent more hitting power than previous models. Each series model requires 59 cfm of air and delivers 1,400 blows per minute. The breakers are offered in three versions – basic, silenced and vibration-reduced – and a variety of shank sizes are available to accommodate all applications. For easier operation, breakers equipped with 1-1/4" and 1-1/8" shanks have had their operating weights significantly reduced.

Global Granite & Marble Streamlines Ownership

Global Granite & Marble shareholders David Havens and Christian Condit announced that they have acquired 100 percent ownership of the company. They acquired all outstanding shares from partners Elliot Uchitelle, Mike Pontello and Alex Habr. The departure of Uchitelle, Pontello and Habr was amicable. Terms of the transaction were not disclosed.

Luck Stone is Recognized for Its Inventive Reclamation Efforts

The Division of Mineral Mining of The Virginia Department of Mines, Mineral and Energy (DMME) and the Virginia Transportation Construction Alliance (VTCA) honored Luck Stone Corporation's Construction Aggregates division at its annual convention in Virginia Beach, Va., for its reclamation efforts on the company's former sand and gravel operation in King William County.

Luck Stone received honorable mention in VTCA's award reclamations program, Best Reclamation - Quarry, which recognizes companies that demonstrate a high level of resourcefulness, innovation and timeliness that result in successful mine land reclamation, while preserving minerals that are vital to the economy of Virginia.

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