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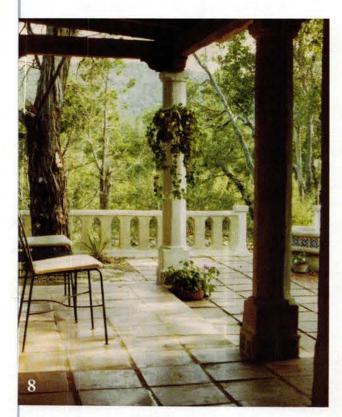


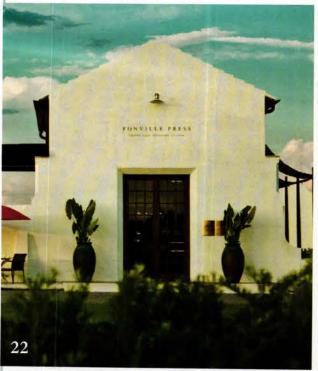
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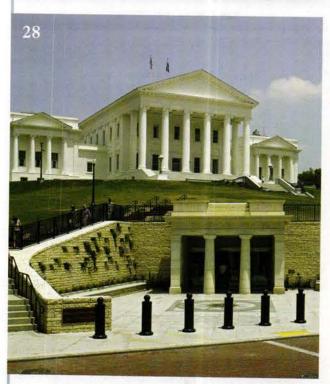
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On the cover: Place de Toscane in Val d'Europe, France, a new mixed-use urban community designed by Pier Carlo Bontempi Architettura Civile & Designo Urbano of Parma, Italy, is modeled after an Italian piazza but the architecture is inspired by traditional French precedents. See page 19. Photo: Luc Boegly

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Full Court Press

New Design & Construction - less than 30,000 sq.ft.

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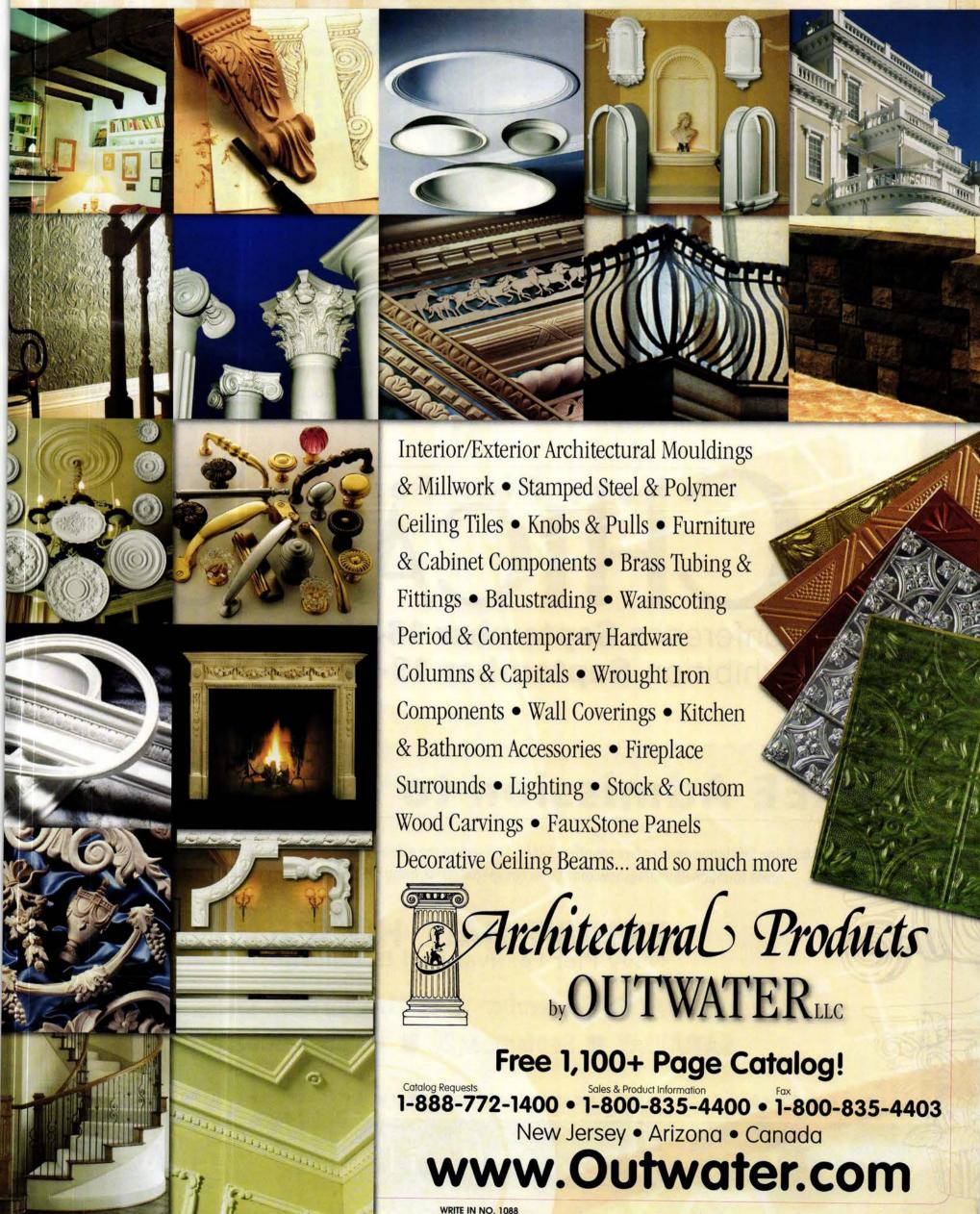
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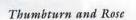
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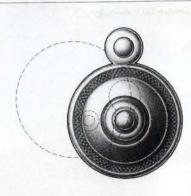
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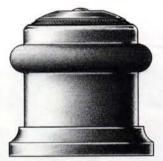


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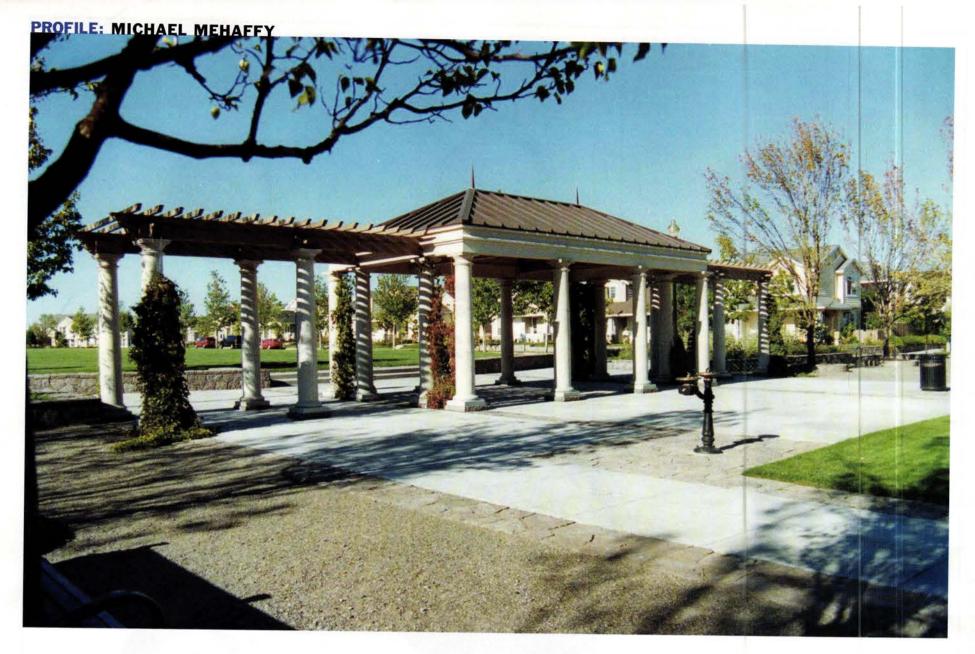
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Complexity



Michael Mehaffy has championed traditional building and sustainable design throughout his 25-year career. Among his achievements is Orenco Station, a 200-acre, mixed-use, transit-oriented development outside Portland, OR, that The New York Times once called "perhaps the most interesting experiment in New Urbanist planning." All photos: courtesy of Michael Mehaffy

Whether as a planner, designer, or builder, Michael Mehaffy believes traditional buildings are essential to achieving true sustainability. By Kim A. O'Connell

ichael Mehaffy's most vivid childhood memories have little to do with buildings – at least not the grand buildings that might have impressed some other future designer and builder. Instead, his memories are filled with the color and textures of traditional cultures – the way the buildings conformed to the landscape of a Mexican town his family visited, or the Cajun sounds and smells of his upbringing in Beaumont, TX, near the Louisiana border. Although he didn't know it then, this budding cultural awareness formed the root of a deeply held view of the built environment: that buildings are successful only when they play an integral part in human life, rather than stand apart from it as objects to be admired.

"I see a real relationship between the phenomenon of tradition and the other patterns that exist in nature and sustainable ecosystems," Mehaffy says. "Traditions evolve very similarly to how natural ecosystems work. They have the organized complexity of those systems, in which things get refined and proven and optimized in a balanced systemwide approach. As a result we often find them very beautiful. And that is very different from a technological or theoretical approach, which is what we've done over the last century and which has created all kinds of unintended consequences."

For 25 years, Mehaffy has devoted his career to challenging what he calls the "airplane view" of building, a top-down design approach that has little to do with the complexities of life on the ground. As the principal of a planning and design-build company, Structura Naturalis, Inc., located just outside Portland, OR, Mehaffy has served as a consultant on many projects both in America and abroad that aim not just for superficial sustainable design, but for true sustainability – the rarely achieved marriage of ecological soundness, economic viability, social equity and beauty. For him, sustainability is not about a checklist of "green" products, although he is an admirer of and a participant in the development of the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) rating systems, but about a profound awareness of how the order of the built environment underpins human life and affects the natural world.

"Most people who like traditional buildings recognize that our built environment has degraded in the last half century or so – that it has gotten very ugly – and that somehow, this actually matters, much more than it might appear," Mehaffy says. "The beauty we experience is an indicator of what matters to our health, to our quality of life, to our quality of the environment, and to the sustainability of that environment. If it's a higher-quality environment, it's more likely to be successful, well loved and more enduring – in short, more sustainable."



Mehaffy designed and supervised construction of this pavilion at Orenco Station – with collaboration from Ken Grimes and land-scape design by David Aulwes – from which the town center can be seen.



Mehaffy, Grimes and Aulwes also designed this complementary North Pavilion at Orenco Station, continuing the traditional details that help give the town a sense of place.



Not long after Mehaffy graduated from the University of California, Berkeley, where he studied with architect Christopher Alexander, he designed and built this sustainable house in Austin, TX, which features passive solar design, high-insulation walls, native vegetation and permeable driveway materials.

Personal Philosophy

In 1980, Mehaffy was studying in the graduate architecture program at the University of California, Berkeley, when he walked into an armed robbery in progress at a local convenience store. He had already earned an undergraduate degree in liberal arts and architecture from Evergreen State College in Olympia, WA. and had studied philosophy and business at the Graduate School of the University of Texas at Austin, when he entered Berkeley with the specific desire to study under architect Christopher Alexander (author of A Pattern Language and The Nature of Order), who taught in the program's second year. During the course of his first-year studies, however, Mehaffy felt that the program was, as he says, "brainwashing me and destroying my affection for traditional architecture." When the would-be assailant pointed a gun at him before opting to flee the convenience store, Mehaffy says, "it brought a lot of frustrations to a head, and I decided right then to leave the academic life for good."

Where a non-academic life would have led him is anyone's guess, because Alexander quickly persuaded Mehaffy to continue his studies in Berkeley, beginning an intellectual partnership between the two that continues to this day. After earning his degree, Mehaffy launched his own design-build and planning firm, now known as Structura Naturalis, Inc., in 1982. "I always loved making things and had a natural instinct for building," he says. "Chris really gave me the bug to do design-build as an approach, which I had already been doing anyway. So I built my first house in Texas and never looked back." (That house, by the way, was an early example of sustainable design, back when it was far more difficult to acquire green-building products than it is today.)

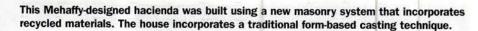
Mehaffy views his work as part of the great American tradition of masterbuilders. As design and construction professions have become more specialized and their tools more refined, he believes, the space between idea and execution has grown too great. "Many of the great cathedrals had just two drawings, one

floor plan and one elevation of one bay of the building," Mehaffy says. "Then, as they built the thing, they would do shop drawings and refinements. The modern approach of pre-planning everything ahead of time is really failing us. The process of responding to what exists and having buildings growing and changing over time is much more connected to sustainability than we realize. It's the way nature creates such incredibly beautiful and sustainable structures."

Like the wide-ranging student he once was, Mehaffy takes an approach to architecture that is informed by the sciences and philosophy, disciplines that shed light on human behavior and how it might affect and be affected by architecture. "In the sciences, we really are beginning to understand how complex systems work," he says. "This isn't something messy or irrational, but something that is vital to understand and accommodate in our cities. [Urban advocate] Jane Jacobs talked about this in her work - that things that appear messy and disordered can be incredibly well-ordered."



Mehaffy is fond of central spaces with circular networks of spaces, like the courtyard of the sustainable house in Austin. He took care to follow traditional regional patterns when designing the structure.



New Orleans offers a tragic example of this, says Mehaffy, who has participated in post-hurricane planning along the Gulf Coast. Historically, Mehaffy asserts, the city had developed in concert with the surrounding ecosystem, whose wetlands and channels had created natural storm surge barriers. Only when engineers carved razor-straight canals and transported silt into the Gulf of Mexico did they destroy the wetland ecosystem and create the kind of "hurricane highway" that ushered in Katrina nearly three years ago, he says.

"Really good buildings have to be allowed to grow into a place," Mehaffy says. "They have to be built almost like trellises, structures that things can attach to. Traditional practice helps us to do that, to develop good armature, good bones that things can grow up on. We make a royal mess of things when we try to simplify the buildings and strip the ornament off – to isolate and commodify everything. When we do that, we destroy the complexity and connectedness on which our quality of life depends."

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Projects and Planning

One way that cities grow organically is when they are built in concert with public transit lines. If one major criticism can be leveled at New Urbanist developments, for instance, it is that they often lack meaningful connections to existing cities. From a sustainability standpoint, some of the most successful New Urbanist projects, therefore, are those that are linked to public transportation. One such project, Orenco Station, is a 200-acre, mixed-use, transit-oriented development outside Portland, OR, on which Mehaffy served as project manager.

In 2000, writer Adam Ehrenhalt penned a *New York Times* editorial that called Orenco "perhaps the most interesting experiment in New Urbanist planning." Although he questioned the planners' decision to site the town center closer to the highway than to the light-rail train station – which Mehaffy says was a nod to the realities of current car-dominated travel – Ehrenhalt concluded that the new village set an important example for future New Urbanist projects. Begun in 1997 and still being built out now, the village is bustling with shops and restaurants, and peppered with ample parks and open areas. "[O]ne fact is undeniable," Ehrenhalt wrote. "People want to live in places like this."

As project manager, Mehaffy coordinated both in-house and consultant teams for the developer, PacTrust. Mehaffy collaborated on the designs and personally executed the design and drafting of several prominent features of the traditional town. "We worked at all the scales of development at Orenco and took a bottom-up approach to the site, which I think is critical," he says. "Orenco has its faults, and it's important to learn from mistakes as well as successes. But I would argue that it does have an unusual degree of life and quality to it, an evolved quality and a complexity, even though it was a fairly conventional master-planned community."



This 1932 lakeside house in Portland, designed by architect Edward J. Green, is a fine example of the Arts and Crafts tradition. Mehaffy renovated the gutted interior, added an accessory living unit over the garage, and designed extensive landscaping.

Other projects include the Pringle Creek Community, a sustainable mixeduse redevelopment of the Fairview State Hospital in Oregon, and Harbor Peak, a 600-acre development in an area originally master-planned by architect Bernard Maybeck. Mehaffy has also designed numerous gardens, furniture, houses, stores, offices and towns in the United States and Europe.

"So much of the time, what you need to make the project successful is in your backyard if you would only recognize that and respect that," Mehaffy says. "We are in the grips of the notion that growth is all about starting from scratch. The model for a lot of development today is the model of the assembly line and mass production, which has worked for assembling rifles and automobiles and televisions. We've got to move a lot further in the direction of combining efficiencies with great quality and great uniqueness, just as natural processes do. We can learn from them to develop new approaches, new kinds of 'generative codes,' for example. It's an exciting opportunity to reform our current unsustainable technology. But we're still a very short distance down that long road."

Collaborative Efforts

If, as the Greek historian Plutarch once wrote, the truly noble spirit shows itself in times of disaster, this was proven time and again in the Gulf Coast region following the devastating 2005 hurricane season. In all the post-Katrina planning and rebuilding efforts that have taken place, one of the most important was the Mississippi Renewal Forum, which featured architect Andrés Duany's challenge to designers to create an alternative to the trailers being provided by the Federal Emergency Management Agency. The winning design by Marianne Cusato, simply called the Katrina Cottage, was a 308-sq.ft. traditional house that was dignified and permanent – the latter an especially essential characteristic for a place to feel like "home."

Mehaffy worked closely with Duany and others on the renewal forum. "It was a real effort to get a handle on the production process for rebuilding organically on a larger scale," Mehaffy says. "We had numerous disciplines assembled together – architects, urban designers, economists, engineers, landscape architects and sociologists who thought very deeply about how people form networks – and we developed a whole series of proposals for the recovery, many of which are still being implemented."

In all, Mehaffy participated in three different planning teams in Louisiana and Mississippi. Among other things, he spearheaded the plan for the so-called

Neighborhood Rebuilding Centers, which give citizens bottom-up rebuilding tools and a local forum to have a voice in the planning and rebuilding effort. The centers are now part of the Unified New Orleans Plan, which is still being implemented.

This kind of collaboration is not new to Mehaffy. In 2003, he became the founding director of education for the Prince's Foundation in London, a position he held until 2005. Working closely with the Prince of Wales, Mehaffy created a new sustainability education program in partnership with six universities and several major British agencies and nongovernmental organizations. He arranged collaborations with prominent thinkers such as Alexander, Duany and Léon Krier, as well as sociologists and other scientists.

In a similar vein, Mehaffy now serves as the coordinator of the Environmental Structure Research Group, an international consortium of well-known researchers and practitioners. He is chair of the USA chapter of INTBAU, the International Network for Traditional Building, Architecture & Urbanism, and he is also chair of the academic committee for the Council for European Urbanism, which is holding a major conference on climate change and urban design in September. Mehaffy and his colleagues have recently created the non-profit Sustasis Foundation, an umbrella for these and other research and development efforts. "I make a big emphasis in my work to try to connect people doing key work who might be able to help each other and facilitate collaborations between them," he says. "I think this is increasingly the name of the game - how we reach out across specializations and other borders and learn to collaborate effectively on all these challenges we face today."

To Mehaffy, collaboration is closely related to tradition: the way people working together in a society create an evolutionary process that results in a higher-quality outcome



Whether the project is large like a master plan or small like this traditional bungalow on the Oregon coast, Mehaffy enjoys working with blacksmiths and other artisans to design and build projects collaboratively.

than a collection of specialists might achieve, however brilliant. "On the one hand, we are facing some quite grim challenges these days," he says. "Yet so much is being learned about the workings of nature and of the complexities of culture and tradition....Nature is giving us what we need, and in spite of the messiness – there's always messiness – there is remarkable resilience within the system. We need to ally ourselves with that resilience, with those natural processes, and learn from them. I really do believe that if we do, a real renaissance is possible – a flowering of a beautiful new phase of human culture. And a most necessary one." TB



As the founding director of education for the Prince's Foundation in London, Mehaffy created a new sustainability education program involving prominent universities, agencies and nongovernmental organizations. As shown here, he arranged seminars with prominent thinkers such as Space Syntax pioneer and architecture professor Bill Hillier, postmodern theorist Charles Jencks, and complexity scientists Brian Goodwin and Philip Ball.



Mehaffy often works with professionals who are taking continuing education modules in sustainable urban design and planning through the Prince's Foundation.

How do architects define true sustainability? By Kim A. O'Connell

magine the sustainable building industry refashioned as a game show called Global Jeopardy. After racking up points by selecting green products, you and two other contestants are down to the final question: "Which roofing material is the most sustainable?" "Recycled rubber tiles," answers one competitor. "A vegetative green roof," declares the other. "Good old-fashioned slate," you say. The clock ticks. The earth hangs in the balance. Finally, with great fanfare, the host announces that all three answers are correct and everybody wins. How is this possible?

When considering sustainable products and materials, architects, builders and designers are faced with more choices than ever before. As just one barometer of the sustainability trend (albeit a major one), the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) rating system has become extraordinarily popular, representing nearly 50,000 accredited professionals, more than 10,000 registered projects (and about 1,300 certified), and more than \$12 billion in value to the construction industry. As sustainability has gone mainstream, the green-building market has been flooded with products and materials.

"Architects are being inundated with all sorts of claims from every supplier about how green their product is," says David Vottero, AIA, LEED, the director of architectural design for Columbus, OH-based Schooley Caldwell Associates. "People come here and say if you spec my product, you get this or that LEED point, but sustainability is a holistic approach, and it's difficult to single out one thing like materials. There ought to be an integrated approach to design and material selection and specification."

So how do architects and other designers wade through the growing list of available green products and materials? Generally, it comes down to durability and lifecycle factors,

energy efficiency and embodied energy, recycled content and salvaged materials, third-party certifications, and how sustainability fits into a project's overall mission and design.

Durable Goods

Few places in Maryland are more historic than St. Mary's City, the state's former colonial capital established in 1634. At its heart is St. Mary's College of Maryland, a campus whose stately brick buildings evoke the local heritage but which exudes a very modern commitment to environmental technology. Its newest building,

Specifying Sustainability

Goodpaster Hall, the newest building at St. Mary's College of Maryland, is surrounded by historic colonial buildings made of traditional materials like brick and slate. Designed by SmithGroup to fit in with the local colonial tradition, the LEED silver building is constructed with durable, natural products and materials expected to stand the test of time. Photo: Boris Feldblyum

Goodpaster Hall, is the first LEED-certified building on campus, recently earning a silver rating. Designed by Washington, DC-based SmithGroup with red-brick cladding and simple geometry, Goodpaster Hall features such products as lumber from sustainably harvested forests, waterless urinals, and rainwater and greywater systems that recycle water from sinks for flushing. About 75% of the building materials are made with recycled content, including structural steel, drywall, carpeting and laboratory counters.

Goodpaster Hall is, in many ways, a green manufacturer's dream project, yet its designers also sought to use products that were durable and less likely to need

> frequent replacement. "You're always trying to strike this balance between breaking new ground - and green products tend to be new - and choosing those products that you don't generally think of as being green but really are green," says Greg Mella, AIA, LEED, a principal with SmithGroup. "Selecting materials for the St. Mary's job, we looked at the exteriors on the campus, which were all brick and slate, and they are typical green materials. They tend to be locally manufactured products with low embodied energy. Then we weighed that against the fake slate made of recycled rubber, and it doesn't have the life span, and it has a higher embodied energy."

Several architects interviewed for this story agreed that inert, natural materials and products such as stone, brick and cements were intrinsically sustainable because they are durable, with low embodied energy and a high potential for reuse. But Mella isn't saying that the recycled rubber roofing couldn't be perfect for a different project - the point of sustainability is to balance the impacts of every decision against every other one. "There are so many sustainable products out there, and you can do a building that looks like anything you want and features



Goodpaster Hall features an array of sustainably products such as sustainably harvested lumber, waterless urinals, and rainwater and greywater systems. About 75% of the building materials contain recycled content, including structural steel, drywall, carpeting and laboratory counters. Photo: Boris Feldblyum

anything you want," he says. "We try to look at the duration and life span of a material, how it is maintained, and how much energy goes into the manufacture of that material."

Lifecycle analysis is critical to frontend decision making, Mella adds. "I do a lot of my work in higher education and happily, campuses are looking for longlife buildings, 50 years or more," he says. "Students inhabit these buildings, so they have to be resistant to students swinging bats and standing on desks."

"Life expectancy is a very important factor," agrees John H. Cluver, AIA, LEED, director of historic preservation for Voith & Mactavish Architects in Philadelphia, PA. "Buildings that are well built and well designed will be well used and well loved far into the future. The materials need to be able to last, which includes being able to be maintained and repaired. There are countless stories of historic buildings that have found a second life with an entirely new function, where the main reason these buildings were saved is because they were so well built that they were going to be difficult to demolish. The fact that these buildings were built with the expectation of a long life allowed them to have that long life."

Cluver's firm is now working on a school building (a project so new he is reluctant to divulge details for publica-

tion) in which the architects opted for slate flooring, stained concrete corridors and metal roofing instead of less-durable materials. "They had a much higher initial cost, but will pay for themselves with their low maintenance needs and absence of a replacement cycle," he says. "This same project also spent extra on high-efficiency glass, efficient lighting, and a roof with low heat absorption, all of which will save the school money on energy costs every year."

Conserving Embodied Energy

In Omaha, NE, a sustainable "concept house" for the U.S. Department of Housing and Urban Development's PATH program (the Partnership for Advancing Technology in Housing) is a show horse of sustainable product specification. The house contains recycled-content carpeting, as well as flooring, plaster, paint and even furniture designed to emit low quantities of volatile organic compounds (VOCs). To conserve energy, more than 80% of the lighting in the house is of the compact fluorescent variety, and other light fixtures are either low-voltage or rated under the federal government's well-known Energy Star program.

Yet focusing on only green products misses the whole point of sustainability, says Fernando Pagés Ruiz, a Lincoln, NE-based home builder who built the Omaha PATH house. He is also the author of *Building an Affordable House*. "There is a lot of attention paid to individual products, which is kind of a hodgepodge



Recycled-content plastic lumber is touted as one of the most environmentally preferable products on the market today, but in some cases old-fashioned wood or wood composites might be more sustainable. Photo: courtesy of PATH

approach," he says. "It isn't an energy-efficient house just because you stick an energy-efficient furnace in it." Energy efficiency also derives from the durability of the exterior cladding materials, which will preserve the energy embodied in their manufacture and installation, and the flexibility of the interior spaces to be adapted to new uses. "Part of the sustainability of this house is the ability to change it without doing a major demolition," he says. "There's an ecology to efficiency, to quality, to using less materials."

The concept of embodied energy has been one of the most difficult for the design and building industries to quantify and understand. We all can grasp the connection between installing fluorescent bulbs and a lower utility bill. However, it is much harder for designers to estimate the energy that goes into manufacturing a particular product or material, how that factors into the cost estimates for a project or the lifespan of a building, and the energy that is expended when that material is disposed of later or recycled into some new product.

"The industry as a whole does a poor job of determining true sustainability," Cluver says. "It is very easy for a manufacturer to claim that its product is sustainable in some way and very difficult to verify these claims. For example, I could claim that new insulation vinyl windows are sustainable, by focusing on the reduction in heat loss compared to a single-glazed window... This, however, ignores the energy required to produce these windows, their lack of durability and recyclability, and



Duany Plater-Zyberk & Company's new Light Imprint New Urbanism (LINU) system employs a matrix by which engineers and designers can determine the most sustainable environmental strategies for different "transect zones," ranging from rural to urban. The pilot program is now being tested at Habersham, a village in Beaufort, SC, shown above. In 2008, the program won a "green innovation award" from the Charlotte, NC, Green Building Council and the Charlotte Business Journal. Photo: courtesy of DPZ





Like its biblical namesake, the 19th-century Lazarus department store in Columbus, OH, has risen from the dead – transformed by Schooley Caldwell Associates and its design and construction partners to a sustainably designed mixed-use facility, including offices, retail, exhibition space and restaurants. Photo: courtesy of Schooley Caldwell Associates

Left: Light Imprint New Urbanism principles being tested at Habersham, SC, including paving and filtration options. According to the model, paving methods on the edge of a developed neighborhood might include a plastic mesh product or crushed stone and shell, while filtration options could range from a natural swamp in an undeveloped area to a bioretention swale in a neighborhood. Photo: courtesy of DPZ

the ability to achieve comparable energy savings through window repairs and a storm window." (See related story, "The Right Thing," page 159.)

That said, Cluver believes that the greatest innovations in the sustainable design field are related to energy – either producing it (through photovoltaic panels, wind farms or alternative fuels) or conserving it (through more streamlined operations, improved thermal efficiency and recyclability). He hopes that future iterations of LEED continue to reflect the industry's growing recognition of embodied energy, not just in existing structures but in the materials used to restore buildings or construct new ones.

Recycled and Renewable

If ever there was an apt name for a building, the 19th-century Lazarus department store in Columbus, OH, may be it. Like the biblical Lazarus who was raised from the dead, the one-million-sq.ft. landmark was recently restored and adapted as a mixed-use facility, including offices, retail, exhibition space and restaurants. Sustainably designed by Schooley Caldwell Associates, the project (certified gold under the LEED system) features an array of recycled-content products, including terrazzo flooring made with recycled glass, toilet partitions fashioned out of recycled plastic bottles and flooring made from old tires. Readily renewable materials such as bamboo flooring and cork baseboards were also employed.

Indeed, one of the clear successes of the sustainable-design movement has been the proliferation of recycled-content products, but some say that has given designers an overly facile way to go green. "Recycled content is a good thing, but it's a double-edged sword," says Schooley Caldwell's Vottero. "I assign less value to recycled content than to other considerations, because sometimes manufacturers are using materials with a lot of embodied energy. Take recycled plastic timber: How many milk jugs were used to make that bench? When you think about the amount of petroleum products that went into those milk jugs, is that a good investment for the materials? Sometimes it's just downcycling."

Although Vottero is optimistic about the forthcoming LEED version 3.0, he believes the current rating system places too much emphasis on recycled content. "Recycled content is the low-hanging fruit [of the LEED system]," he says. Here, as with lifecycle analysis and embodied energy concerns, design professionals must take a more profound approach to the products they specify. Manufacturers still confuse the marketplace, Vottero says, and remain fuzzy about the extent to which they are incorporating post-industrial versus post-consumer recycled content – the former being simply the manufacturing equivalent of kneading together leftover dough to make more biscuits. Harnessing post-consumer recycled content is considerably more difficult and expensive.

Renewable materials pose challenges of a different kind. Even when specifying natural materials like wood or plants, architects and landscape architects may find that there is more (or less) than meets the eye. "Unfortunately, the quality of some materials has declined, the prime example being wood," Cluver says. "The quality of wood today is not as high as it



The most striking feature of the newly renovated Lazarus building may be the abundant daylight that enters the historic building now that long-shuttered windows have been reopened and restored and a new skylight has been added. In addition, more than 11,000 tons of concrete, steel, wood, glass and other materials were recycled rather than shipped to the landfill. Photo: courtesy of Schooley Caldwell Associates



Recycled-content products employed at the LEED gold Lazarus project include terrazzo flooring made with recycled glass, toilet partitions fashioned out of recycled plastic bottles and flooring made from old tires, along with products made from renewable materials such as bamboo flooring and cork baseboards. Photo: courtesy of Schooley Caldwell Associates

include those developed by the Forest Stewardship Council, Green Seal, the Sustainable Forestry Initiative, and the Greenguard Environmental Institute, among others.

Architects are increasingly defining sustainability for themselves as well. One notable certification standard is the Cradle to Cradle system developed by sustainable architect William McDonough, based in Charlottesville, VA, and chemist Michael Braungart, which promotes green product development and corporate responsibility.

The Miami-based firm Duany Plater-Zyberk & Company (DPZ), for its part, has taken sustainable product specification even further by tying it to traditional neighborhood planning. Led by its Charlotte, NC, office, DPZ's new Light Imprint New Urbanism (LINU) system employs a matrix by which engineers and designers can determine the most sustainable environmental strategies and materials across different "transect zones," ranging from rural to urban. For instance, paving options on the edge of a developed neighborhood might include a plastic mesh product or crushed stone and shell, while the urban core might require asphalt paving blocks. Filtration options might similarly range from a natural swamp in an undeveloped area to a bioretention swale or a grassed cellular concrete product in town.

DPZ developed the system (now in pilot form) when the firm realized that the engineers they worked with were taking a heavy-handed approach to sustainability and incorporating "gizmo green" products that were expensive and in some cases unnecessary, says Thomas E. Low, AIA, LEED, DPZ's director of town planning. The LINU model, he says, combines the most profound and visionary thinking about sustainability with the New Urbanist approach to development – walkable neighborhoods, mixed uses – that its adherents say is intrinsically sustainable.

"The average American household averages 13.7 separate car trips per day," Low says. "If you were to mitigate between one third and two thirds of those car trips, is there anything else that would come as close to importance in green design? Therefore the issue is how green your neighborhood is. If you have a green building and everyone is driving to it, you're only part of the way there. We don't want to do green sprawl."

Just like a game show, sustainability poses many questions for the design profession. The answers lie not just in the products themselves, but in the careful consideration of

where they came from, how much energy they embody and what lies ahead for them long after we're gone. Although the options seem endless, this is a game we truly all can win. TB

was 100 years ago, due to historically poor resource management requiring the use of fast-growth lumber that is not as durable." Tavis Dockwiller, ASLA, a principal with Viridian Landscape Studio in Philadelphia, says that she has begun working with plant ecologists to ensure that the plant mixes for her projects are not only native (itself a novel concept not too long ago) but biologically diverse – an even more sustainable solution.

If using recycled-content products is desirable but fraught with hidden concerns, then what about salvage? Reusing existing materials seems, on its face, to be an environmentally sound and low-energy form of recycling. Some observers believe, however, that promoting the salvage of existing materials simply encourages more demolition, while others think that the catch-as-catch-can nature of salvage will never be reliable enough for this to become a major issue.

"I think a central concept in sustainability is to eliminate the concept of waste, and in this regard I think building salvage is a great thing," says Vottero. "However it is important to note that the condition that we should be developing is whole building salvage and deconstruction instead of whole building demolition. The current concept of 'building salvage' is really little more than looting."

If buildings were required to be disassembled instead of demolished, he says, it would achieve the dual goals of eliminating waste and preserving embodied energy. "We should salvage brick and masonry materials, rather than crushing them into aggregate," he says, "and salvage framing lumber rather than grinding it into mulch."

Setting the Standard

As sustainability matures as both a concept and a market driver, architects and other design professionals are likely to depend even more heavily on third-party rating standards to help sort through the abundance of green products. In addition to the aforementioned Energy Star system, other popular third-party standards

Green Web Sites

The Internet has no shortage of governmental, nonprofit and manufacturer web sites devoted to sustainable design. Although this list is by no means exhaustive, here are sites that may help you learn about or specify the most sustainable products and materials.

Building Green: www.buildinggreen.com

Community Forklift: www.communityforklift.com

Cradle to Cradle: www.mbdc.com Energy Star: www.energystar.gov

The Forest Stewardship Council: www.fsc.org

Greenguard Environmental Institute: www.greenguard.org

Green Seal: www.greenseal.org

Light Imprint New Urbanism: www.lightimprint.org

PATH Concept Houses: www.pathnet.org

Sustainable Forestry Initiative: www.aboutsfi.org
Sustainable Sites Initiative: www.sustainablesites.org

U.S. Green Building Council: www.usgbc.org

Sustainable Stewardship

Historic preservation plays an essential role in fighting climate change. By Richard Moe

istoric preservation has an essential role to play in fighting what may be the greatest crisis of our times - climate change. There's no more appropriate or impressive place to talk about this subject than this building. Montgomery Meigs' Pension Building outlived its original function decades ago. Incredibly, there was talk of demolishing it for a while, but wiser heads prevailed, and the building was given new uses. Today, having reached the ripe old age of 120, this architectural and engineering marvel is still here for all of us to enjoy, learn from, and be inspired by.

The story of the National Building Museum encapsulates what historic preservation is all about: When you strip away the rhetoric, preservation is simply having the good sense to hold on to things that are well designed, that link us with our past in a meaningful way, and that have plenty of good use left in them. Preservation in America has embraced that philosophy for more than 150 years now. It began when a woman named Ann Pamela Cunningham launched a national crusade in the 1850s to save Mount Vernon from demolition. For most of the next century, preservation focused on saving and restoring iconic buildings.

Around the middle of the twentieth century, "economic benefit" became preservation's new watchword. The National Trust's Main Street program was created to restore economic vitality to deteriorated downtowns by emphasizing the historical and architectural features that set them apart from the typical suburban strip mall. The concept of adaptive reuse came into prominence, and tax incentives were developed to encourage owners to renovate and reuse older buildings instead of demolishing them. It was all about dollars and cents.

This trend led inevitably to an emphasis on preservation's role in supporting and enhancing social values. Today, we understand that maintaining tangible contact with our past strengthens the sense of stability and continuity that is essential in a healthy society, so we make the preservation of familiar landmarks a key component in the revitalization of neighborhoods and communities that are attractive and livable. It's all about bringing us together, encouraging us to recognize the shared heritage that defines and unites us as a nation and a people.

These shifts in focus over the past century-and-a-half show that preservation is a dynamic, vibrant movement. Some things haven't changed: We're still saving iconic buildings, including icons of Modernism such as Mies van der Rohe's Farnsworth House and Philip Johnson's Glass House. Our work is still rooted in a respect for history. But today, more than ever before, it is as much concerned with

building the future as with holding on to the past.

This concern with the future is at the core of the new phase that preservation is entering right now: As growing numbers of people are worried about climate change, the degradation of the environment and our relentless consumption of energy and irreplaceable natural resources, it is increasingly apparent that preservation has an essential role to play in any effort to deal with the environmental crisis that looms over us. Because it necessarily involves the conservation of energy and natural resources, historic preservation has always been the greenest of the building arts. Now it's time to make sure everyone knows it.

As growing numbers of people are worried about climate change, the degradation of the environment and our relentless consumption of energy and irreplaceable natural resources, it is increasingly apparent that preservation has an essential role to play in any effort to deal with the environmental crisis that looms over us.

It's all about sustainability. Up to now, our approach to life on this planet has been based on the assumption that "there's plenty more where that came from." With our environment in crisis, we have to face the fact that there may not be "plenty more" of anything, except trouble. In the face of that realization, we're challenged to find a way of living that will ensure the longevity and health of our environmental, economic and social resources.

The latest report from the UN Intergovernmental Panel on Climate Change was released a few weeks ago, and it is deeply sobering. The report states that "warming of the climate system is unequivocal" and is the result of human activities.

The United States is a big part of the problem. We have only 5% of the world's population, but we're responsible for 22% of the world's greenhouse gas emissions that are the leading cause of climate change. Much of the debate on this subject usually focuses on the need to reduce auto emissions. But according to the Environmental Protection Agency, transportation - cars, trucks, trains, airplanes accounts for just 27% of America's greenhouse gas emissions, while 48% - almost twice as much - is produced by the construction and operation of buildings. If you remember nothing else, remember this: Nearly half of the greenhouse gases we Americans send into the atmosphere come from our buildings. In fact, more than 10% of the entire world's greenhouse gas emissions is produced by America's buildings, but the current debate on climate change does not come close to reflecting that huge fact. The message is clear: Any solution to climate change must address the need to reduce emissions by being smarter about how we use our buildings and wiser about land use.

I'm not so naive as to believe that preservation represents the way out of this environmental crisis. But I do believe that historic preservation can be - and must be - a key component of any effort to promote sustainable development. Indeed, preservation is sustainability. The connection between historic preservation and sustainability is not a new concept. It's something that many people in the preservation community have believed and talked about for many years. They understand that preservation is "the ultimate recycling." As long ago as 1980, before the word "sustainability" came into widespread use, the National Trust issued a Preservation Week poster that featured an old building in the shape of a gas can a reminder that reusing an existing building, instead of demolishing it and replacing it with a new one, is one good way to conserve energy.

Much has changed since that poster appeared 27 years ago. The stakes have gotten much higher. Climate forecasts, meteorological reports, population growth projections, rising energy costs, dwindling reserves of water and fossil fuels, even the daily news headlines; they all warn us that we can't wait any longer for "somebody" to figure out what to do. The "somebody" we need is us, and the need is clearly urgent.

The challenge is to help people understand that preservation, by its very nature, is sustainability. I intend to address that challenge by sharing my views on what I believe is preservation's essential role in fostering development that is environmentally, as well as economically, sustainable. The key phrase is "sustainable stewardship." The retention and reuse of older buildings is an effective tool for the responsible, sustainable stewardship of our environmental resources, including those that have already been expended. I'm talking about what's called "embodied energy."

Repositories of Energy

Here's the concept in a nutshell: Buildings are vast repositories of energy. It takes energy to manufacture or extract building materials, more energy to transport them to a construction site, still more energy to assemble them into a building. All of that energy is embodied in the finished structure, and if the structure is demolished and landfilled, the energy locked up in it is totally wasted. What's more, the process of demolition itself uses more energy, and of course, the construction of a new building in its place uses more yet.

Let me give you some numbers that will translate that concept into reality.

According to a formula produced for the Advisory Council on Historic Preservation, about 80 billion BTUs of energy are embodied in a typical 50,000sq.ft. commercial building. That's the equivalent of 640,000 gallons of gasoline. If you tear the building down, all of that embodied energy is wasted.

What's more, demolishing that same 50,000-sq.ft. commercial building would create nearly 4,000 tons of waste. That's enough debris to fill 26 railroad boxcars that's a train nearly a quarter of a mile long, headed for a landfill that is already almost full.

Once the old building is gone, putting up a new one in its place takes more energy, of course, and it also uses more natural resources and releases new pollutants and greenhouse gases into our environment. Look at all the construction cranes dotting the Washington skyline, and consider this: It is estimated that constructing a new 50,000-sq.ft. commercial building releases about the same amount of carbon into the atmosphere as driving a car 2.8 million miles.

One more point: Since 70% of the energy consumed over a building's lifetime

is used in the operation of the building, some people argue that all the energy used in demolishing an older building and replacing it is quickly recovered through the increased energy efficiency of the new building, but that's simply not true. Recent research indicates that even if 40% of the materials are recycled, it takes approximately 65 years for a green, energy-efficient new office building to recover the energy

lost in demolishing an existing building. And let's face it: Most new buildings aren't designed to last anywhere near 65 years.

Despite these surprising statistics and many more like them, we persist in thinking of our buildings as a disposable, rather than a renewable, resource. A report from the Brookings Institution in Washington, DC, projects that by 2030 we will have demolished and replaced 82 billion square feet of our current building stock, or nearly 1/3 of our existing buildings, largely because the vast majority of them weren't designed and built to last any longer.

That much demolition will create a lot of debris. If we didn't recycle any of the building materials, we'd be left with 5.5 billion tons of waste. That's enough debris to fill almost 2,500 NFL stadiums.

How much energy will it take to demolish and replace those buildings? Enough to power the entire state of California, the tenth largest economy in the world, for 10 years. On the other hand, if we were to rehab just 10% of these buildings, we would save enough energy to power the state of New York for well over a year.

Instead of focusing on generalities, let's look at a specific building, like the one we're in right now. It's estimated that the National Building Museum contains about 1.5 million bricks. When you consider how much energy it took to make all those bricks, plus how much it took to manufacture the other materials, then transport them to this site and put them all together in this marvelous structure, the total embodied energy in this building is the equivalent of nearly two million gallons of gasoline. If we assume the average vehicle gets about 21 miles to the gallon, that means there's enough embodied energy in this building to drive a car

about 42 million miles. All of that energy would be wasted if this building were to be demolished and landfilled. What's more, the demolition itself would require the equivalent of more than 8,700 gallons of gas, and it would create nearly 11,000 tons of waste.

It all comes down to this simple fact: We can't build our way out of the global warming crisis. We have to conserve our way out. That means we have to make better, wiser use of what we've already built. Anthropologist Ashley Montague has said that the secret to staying young is to die young, but the trick is to do it as late as possible. All over the United States, people are showing that old buildings put to new uses can stay young to a ripe old age. If that's not sustainability, I don't know what else to call it. Still, too many people just don't see the connection. They don't yet understand that preservation must be an integral part of any effort to encourage environmental responsibility and sustainable development.

The UN report, for instance, doesn't stress the importance of reusing the buildings we have. Similarly, most recent efforts by the green community place heavy emphasis on new technologies rather than on tried-and-true preservation practices that focus on reusing existing buildings to reduce the environmental impacts associ-

ated with demolition and new construction. The most popular green-building rating system, the Leadership in Energy and Environmental Design, or LEED program developed by the U.S. Green Building Council, was designed principally for new construction, underscoring the fact that words like "rehabilitation" and "reuse" haven't had much resonance in the green-building lexicon.

This emphasis on new construction is completely wrongheaded. The statistics I cited earlier tell us clearly that buildings are the problem, but incredibly, we propose to solve the problem

by constructing more and more new buildings while ignoring the ones we already have. Here's what we have to keep in mind: No matter how much green technology is employed in its design and construction, any new building represents a new impact on the environment. The bottom line is that the greenest building is one that already exists.

Energy Hogs

It's often alleged that historic buildings are energy hogs, but in fact, some older buildings are as energy-efficient as many recently-built ones, including new green buildings. Data from the U.S. Energy Information Agency suggests that buildings constructed before 1920 are actually more energy-efficient than buildings built at any time afterwards, except for those built after 2000. Furthermore, in 1999, the General Services Administration (GSA) examined its buildings inventory and found that utility costs for historic buildings were 27% less than for more modern buildings.

It's not hard to figure out why. Many historic buildings have thick, solid walls, resulting in greater thermal mass and reducing the amount of energy needed for heating and cooling. Buildings designed before the widespread use of electricity feature transoms, high ceilings and large windows for natural light and ventilation, as well as shaded porches and other features to reduce solar gain. Architects and builders paid close attention to siting and landscaping as tools for maximizing sun exposure during the winter months and minimizing it during warmer months.

Unlike their more recent counterparts that celebrate the concept of planned obsolescence, most historic and many other older buildings were built to last. Their durability gives them almost unlimited "renewability," a fact that underscores the folly of wasting them instead of recognizing them as valuable, sustainable assets.

I'm not suggesting that all historic buildings are perfect models of efficient energy use, but contrary to what many people believe, older buildings can "go green." The marketplace now offers a wide range of products that can help make older buildings even more energy-efficient without compromising the historic character that makes them unique and appealing. And there's a large and growing number of rehab/reuse projects that offer good models of sustainable design and construction.

More recent buildings, especially those constructed between the 1950s and 1980s, pose a greater challenge. Many of them were constructed at a time when fossil fuels were plentiful and inexpensive, so there was little regard for energy efficiency. In addition, they often include experimental materials and assemblies that were not designed to last beyond a generation.

Today, these buildings make up more than half of our nonresidential building stock. Because of their sheer numbers, demolishing and replacing them isn't a viable option. We must find ways to rehabilitate these buildings and lighten their environmental footprint while still protecting their architectural significance. This is a challenge that preservationists and green-building advocates must face together in the coming years.

I believe that climate change is the defining issue of our time, and will be for a long time to come. What's at stake is nothing less than life as we know it on this planet. The fact that the threat is not immediate does not mean that it's not urgent. The experts tell us we have no time to lose. The debate is over, the facts are in, and it's time to act. Today, most of the important and innovative work on this issue is being carried out by state and local governments and the private sector. Precious little leadership is being offered by the federal government, which isn't even doing much to promote and coordinate fundamental research.

Strong National Leadership

Because this issue cuts across every social, geographic and political boundary, we simply can't hope to bring effective direction to it without strong national leadership. What we need is a federal effort, preferably at the cabinet level, incorporating a significantly strengthened EPA and relevant parts of the Department of Energy and other federal entities. This new agency should be given a mandate that recognizes climate change as a threat to our survival as great as terrorism and that commits the nation to combating it with every resource available. It should be the environmental equivalent of the Department of Homeland Security.

One of the first and most important things that must happen is a thoroughgoing revision of current government policies that foster unsustainable development. For decades, national, state and local policies have facilitated, even encouraged, the development of new suburbs while leaving existing communities behind. As a result, an ongoing epidemic of sprawl ravages the countryside, devouring open space, consuming resources and demanding new infrastructure.

Look at Loudoun County in Virginia, for example, where pro-growth supervisors have already approved thousands of new homes, and are considering the approval of thousands more, in a semi-rural area underserved by roads and public services. Meanwhile, here in Washington, DC, and in scores of other cities, disinvestment has left viable housing stock abandoned and schools slated for closure in areas where infrastructure is already in place, already paid for.

It makes no sense for us to recycle newsprint and bottles and aluminum cans while we're throwing away entire buildings, or even entire neighborhoods. This pattern of development is fiscally irresponsible, environmentally disastrous, and ultimately unsustainable. To replace it, we need federal policy that directs growth to existing communities. You'll note I said "federal policy." While land-use planning has traditionally been a function of state and local government, it's an indisputable fact that where the federal government chooses to spend its money – our money –

I'm not so naïve as to believe that preservation represents the way out of this environmental crisis. But I do believe that historic preservation can be — and must be — a key component of any effort to promote sustainable development. Indeed, preservation is sustainability.

has a huge impact on local planning and development. We need federal policy that stops rewarding unsustainable development. We need policy that maximizes wise use of existing resources by enhancing the viability and livability of the communities we already have.

We have a choice: We can do nothing for a while longer, until the realities of climate change, the disappearance of irreplaceable resources, and soaring energy costs force us to take action. Or we can take steps now to develop a smart, sustainable development ethic and the policies that will support it.

Among other things, we need incentives to encourage reuse and energy upgrades in older buildings. Over the past ten years alone, historic tax-credit incentives have sparked the rehab of more than 217 million square feet of commercial and residential space, and in the process, saved enough energy to heat and cool every home in the six New England states for a full year. We must insure the continued availability of these tax credits, and expand their use in older buildings that are not necessarily historic but still reusable. Equally important, we must provide similar incentives that will help private homeowners use green technology in maintaining and renovating their homes.

These federal actions should be complemented by steps at the state and local levels. Over the past few years, 29 states have enacted their own state tax credits to promote the reuse of historic buildings, and we need to see them adopted in more states. At the local level, we need building codes that allow flexibility and innovation in making existing buildings more energy-efficient.

Revised LEED Standards

Finally, we need to improve green-building rating systems to ensure that they recognize the importance of building reuse. Under the current LEED standards, for example, a new building can be certified "green" even if it's constructed outside densely populated areas. This kind of development amounts to "green sprawl," which is contrary to every principle of sustainability. Also, under the current LEED rating system, reusing 75% of an existing building core and shell is assigned the same value as merely using environmentally-friendly carpet.

The National Trust and others are working with the U.S. Green Building Council, at their invitation, to improve these and other points. It will take time, but I hope that we'll eventually arrive at a revised LEED rating system that accurately reflects the environmental benefits of "smart" locations and building reuse. These public-policy steps are critically important, but we shouldn't wait for government to act. That's why the National Trust has launched its own Sustainability Initiative.

In addition to advocating the new policies, our initiative will continue to gather reliable data on the comparative energy costs of rehab vs. building new. We'll work to refute some common misconceptions about energy efficiency in older buildings, to replace myth with fact, because the facts are on our side.

We'll also undertake a major outreach effort to inform everyone, especially architects, developers, property owners and policy makers, about the benefits of preserving and reusing older buildings. And we'll make our website a "best practices" resource for how to reduce energy consumption and use green technology in the rehab of older structures.

Finally, we'll take steps to integrate environmentally sound practices in the operation of historic sites across the country. Right here in Washington, for example, President Lincoln's Cottage, which we opened to the public in February, is one example. The Robert H. Smith Visitors Center at the cottage is housed in a renovated historic building that is fully LEED-certified, a good example of how green practices and products can be employed in older structures without compromising their historic integrity.

The National Trust for Historic Preservation has long played a leadership role in the responsible stewardship of America's past. Now we're ready and eager to play a similar role in the sustainable stewardship of America's future. **TB**

Richard Moe is president of the National Trust for Historic Preservation. This story was excerpted from a speech he gave in December, 2007, at the National Building Museum in Washington, DC, when he was awarded the Vincent Scully Award. Moe was named an honorary member of AIA in 2003 and is the co-author of Changing Places: Rebuilding Community in the Age of Sprawl.



2008 PALLADIO AWARDS

For Excellence in Traditional Commercial, Institutional & Public Architecture

Sponsored by Traditional Building and Period Homes magazines and the Traditional Building Exhibition and Conference

The seventh annual Palladio Awards competition has recognized ten architectural firms for outstanding work in traditional design for commercial, institutional, public and residential projects. The goal of the program is to recognize project teams whose work enhances the beauty and humane qualities of the built environment through creative interpretation and adaptation of design principles developed through thousands of years of architectural tradition.

The awards are named in honor of Andrea Palladio, the Renaissance architect who created modern architecture for his time while using models from the past for inspiration and guidance. The program applies the same criteria that Palladio used in his own work: Projects should meet all of the functional needs of contemporary usage while applying lessons learned from previous generations to create enduring beauty.

The Palladio Awards were presented at a ceremony in Boston on March 12 as part of the Traditional Building Exhibition and Conference. The winners presented their projects the following day during the conference.

The winners for commercial, institutional and public work are:

New Design & Construction - more than 30,000 sq.ft.:

Pier Carlo Bontempi Architettura Civile & Disegno Urbano, Parma, Italy, for Place de Toscane, mixed-use buildings and piazza in Val d'Europe, France

New Design & Construction - less than 30,000 sq.ft.:

Khoury & Vogt Architects, Alys Beach, FL, for Fonville Press, a café and bookstore in Alys Beach, FL

RESTORATION & RENOVATION

White & Borgognoni Architects, P.C., Carbondale, IL, for the rehabilitation of Union Station in Springfield, IL

SYMPATHETIC ADDITION:

RMJM Hillier, Philadelphia, PA, for an addition to the Virginia State Capitol in Richmond, VA

Six awards were also made for residential projects.

The four winning projects are presented on the following pages. The winners in residential design will be published in the July 2008 issue of *Period Homes* magazine. We congratulate all of the winners. For more information on how to enter the 2009 Palladio Awards competition, go to www.palladioawards.com.

The Jury

A jury of distinguished design professionals was selected by the editors of *Traditional Building* and *Period Homes* magazines for the 2008 program. They were:

Marianne Cusato, principal, Marianne Cusato Associates and Cusato Cottages, LLC, New York, NY

Victor Deupi, Arthur Ross Director of Education, Institute of Classical Architecture & Classical America (ICA&CA), New York, NY

Clem Labine, founder of Old House Journal, Traditional Building and Period Homes magazines, Brooklyn, NY

Mark Thaler, principal, Einhorn Yaffee Prescott Architecture & Engineering, P.C., Albany, NY

John Tittman, principal, Albert, Righter & Tittman Architects, Boston, MA

THE PALLADIUM The Palladium is the

awarded each year to the winning firms in the Palladio Awards design competition. The trophy is based on a motif that has been in continual use as an architectural enrichment for more than 2,500 years: the Greek anthemion. The anthemion, a highly stylized version of the Greek honeysuckle or palmette plant, has been used through the centuries to decorate everything from the

The trophies for the Palladio Awards program are created by

Parthenon to contemporary Classically influenced furniture.

Historical Arts & Casting, Inc., of West Jordan, UT. The firm's design studio took the traditional anthemion form and adapted it to create a new ceremonial sculptural shape. The Palladium trophies were then cast from the model in architectural bronze using the traditional lost-wax method.

In creating the Palladium, the artisans at Historical Arts & Casting, Inc. have exemplified the basic goals of the Palladio Awards program: They've given us a dramatic example of how historic forms can be adapted and used to create beauty in the modern world.

New Design & Construction - more than 30,000 sq.ft.

Winner: Pier Carlo Bontempi Architettura Civile & Disegno Urbano



Project: Place de Toscane, Val d'Europe, France

Architect: Pier Carlo Bontempi Architettura Civile & Disegno Urbano, Parma, Italy; Pier Carlo Bontempi, principal; Giuseppe Greci, project manager; Fabio Paoletti, design architect

People's Piazza

rive a bit east of Paris, France, (or take a 45-minute metro ride) and you arrive at the town of Val d'Europe, home of Euro Disney and Place de Toscane, a new mixed-use traditionally styled development built on what was formerly an empty lot in the heart of the town.

The town itself was founded in 1987 and based on an urban plan created by Jaque Robertson of Cooper, Robertson & Partners of New York City. (See *Traditional Building*, June 2007, page 10.) Built within a traditional framework of boulevards, streets and large and small squares and parks, the 290-acre mixed-use development features distinctly French architecture, with homes and communities built around public areas. Included are residential neighborhoods as well as commercial, cultural and institutional facilities, parking, a metro station and bus terminal and a 1.2-million-sq.ft. retail center.

Designed by Pier Carlo Bontempi Architettura Civile & Disegno Urbano of Parma, Italy, Place de Toscane fits into this plan as a new traditional urban community. It grew out of a competition sponsored by Euro Disney and EPA, the French National Urban Planning office. The program called for an urban block with a public piazza, mixed-use buildings, including residential, commercial and offices, and an architectural character inspired by the regional architecture of the Ile de France. The idea was also to create a people's piazza with no large public buildings. Other requirements of the program called for a connection to the adjoining shopping center and an opening to the soon-to-be-built town hall.

The result is a group of historically inspired, mostly three-story buildings set around an elliptical piazza with restaurants, bistros, shops and a bank on the ground floor, and apartments on the upper floors. The project incorporates approximately 175,000 sq.ft. of built space organized around a large, 35,000-sq.ft. piazza. Included are 309 apartments and approximately 26,000 sq.ft. for 13 retail units. To keep cars out of sight as much as possible, there are 288 underground parking places for residents and another 166 places reserved for retail use.



Designed by Pier Carlo Bontempi Architettura Civile & Disegno Urbano of Parma, Italy, Place de Toscane in Val d'Europe, France, is modeled after the Anfiteatro piazza in Lucca, Italy, with architecture inspired by traditional French precedents. It incorporates a 35,000-sq.ft. elliptical piazza surrounded by shops and restaurants on the ground floor and apartments above. All photos: Luc Boegly unless otherwise noted



Although it's not at the center of the piazza, the almost 30-ft. tall obelisk fountain is the visual focus. It has become a gathering place for the residents.

"The difficulty was the fact that there wasn't an important civic building to become the visual focus of the piazza," says Pier Carlo Bontempi, principal of Pier Carlo Bontempi Architettura Civile & Disegno Urbano. "Therefore we used the elliptical shape that doesn't place any point before the others."

"The large piazza is modeled after the Anfiteatro piazza in Lucca, Italy," notes Fabio Paoletti, design architect. "In fact, it is the same size and shape. The architecture, on the contrary, is inspired by the local architecture of the Ile-de-France and is designed with a sensitivity that is distinctly Italian."

"The Ile de France is the most central France region, where Paris is located," says Bontempi. "Its architecture has a traditional Nordic character: roofs with high slopes, simple volumes and massing with openings fairly contained. This architecture has also been influenced by Classical style even on the simplest buildings, resulting in a simple elegance, even in the more modest buildings of the region. Place Toscane follows these regional architectural characters and compositional models, by their nature already well prepared to receive a small Italian taste."

"The idea was to build a piazza showing the French taste characterizing the 'lle-de-France' district," Bontempi explains. "We alternated simple buildings and more refined ones, creating a harmonic overall variety without repetition. The stucco details give a refined overall look to the buildings. The façades are formal with pediments and a rigid composition. The heights, colors and architecture have created the right hierarchy for the buildings. This shows that you can create beautiful public spaces using many small details."

Although it is not in the center of the elliptical piazza, the focal point of the piazza is a tall fountain in the shape of an obelisk with 12 water jets pouring water into two basins. At almost 30 ft. tall, it has become a place where people gather. Made of Massangis stone, the basin of the fountain is almost 14 ft. in dia., while its base is just over 26 ft. in dia. The piazza itself is made of Comblanchien stone and granite paving.

"The fountain is located not at the center of the piazza with respect to the ellipse, but it is at the heart of the life of the piazza," says Bontempi. He explains that the fountain was designed to keep the visual focus completely within Place de Toscane. "This was successful, thanks to the excellent quality of the fountain itself."

The main entry to the piazza is at the northeast end of the ellipse, facing the corner of the block and the town square with a new Modernist



Walkways lead to smaller courtyards that are more private, just off the main piazza.

Right: Place de Toscane was built on a triangular piece of land with truncated ends. The entry of the plazza faces Town Hall Square while the opposite end provides access to shopping. Photo: Tibo





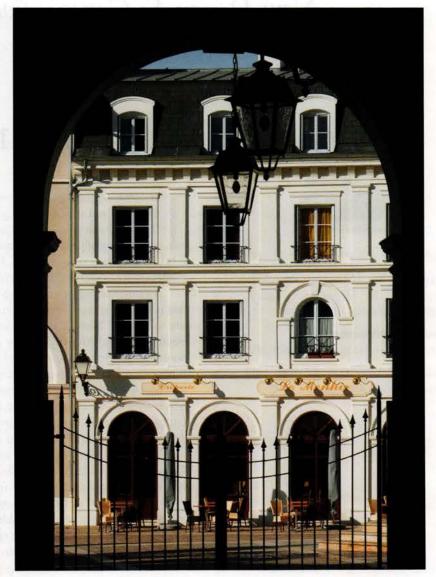
This building features an arcade on the ground floor.

town hall. The entry is designated by two larger buildings. "They are similar to the other buildings, but the scale and massing are different to show that they are the main anchor to the piazza," says Paoletti.

Opposite the main entry, on the southern end of the piazza, is an entry to the glass-covered shopping arcade. It features stone pillars and glass doors to give a formal entry point and to coordinate with the look of the shopping area.

In addition to the doorways to the shopping area and the main entry, the piazza also has two large passageways leading to smaller, more private courtyards on either side. These courtyards provide access to the street as well. Although the piazza is the center of the project, the homes and buildings of Place de Toscane can be entered either from the street, from the piazza or through one of the smaller courtyards. The presentation of the piazza carries over to the street, where the facades of the buildings continue the historical appearance.

Construction on Place de Toscane began in the spring of 2004 and it was completed by the end of 2006. All of the materials and the workers came



Located in the east courtyard, this restaurant can be reached by walking through one of the arcades. It is also accessible from the street.

from France. The developer was Nexity Fereal of Paris and the general contractors were Legendre of Juvisy, and Val d'Oise Paysage of Pierrelaye. Architectural moldings and columns were supplied by Haddonstone, Paris, and windows were built and installed by Oxxo of Ivry Sur Seine. Doors came from Sedib, Ivry Sue Seine, and roofing tile from LaFarge Couverture, Paris.

"It has been a vibrant public space from the beginning," says Paoletti. "For example, schoolchildren often bring their lunches and come to eat here. We could not have foreseen that." He adds that the apartments sold out quickly during the construction and that the values have increased by about 30% each year, "due to the building quality and the pleasant environment."

"I think that Place de Toscane is really a success," says Bontempi. "The busy life going on around it is the proof. I think it can represent a pattern for future developments."

And indeed, this just might be the case. Bontempi is working on other similar mixed-use projects, "but the elliptical piazza remains, at the moment, a unique case." – Martha McDonald



A view of the east courtyard from the street reveals a variety of elevations and architectural detail.



Restaurants and shops provide a lively atmosphere in the piazza. Photo: Durand-Rival

New Design & Construction – less than 30,000 sq.ft.

Winner: Khoury & Vogt Architects



Project: Fonville Press, Alys Beach, FL

Architect: Khoury & Vogt Architects, Alys Beach, FL; Marieanne Khoury-Vogt, AIA, principal in charge

General Contractor: Wave Construction, Rosemary Beach, FL

Developer: EBSCO Gulf Coast Development, Alys Beach, FL

Full Court Press

n 1993, a group of architects, planners, developers and educators with common ideas on neighborhood building and urban planning came together for the first annual Congress for the New Urbanism (CNU). The goal was simple – to counter urban sprawl and decay, and to restore the vitality of the built environment through the preservation and development of diverse neighborhoods and districts. Since then, the CNU has grown to more than 3,100 members and today, there are more than 210 New Urbanist developments under construction or completed in the United States.

Among the regions that have been transformed by these initiatives is the Florida Panhandle. In recent years this narrow strip between Alabama and Georgia to the north and the Gulf of Mexico to the south has been the site of much New Urbanist development, most notably the resort towns of Seaside, Rosemary Beach, WaterColor and Alys Beach. The resulting publicity (*Time* magazine described Seaside as "the most astounding design achievement of its era and, one might hope, the most influential.") has elevated the so-called "Redneck Riviera" to a luxury property hub. And for owners, tourists and visitors alike, the towns are aesthetic triumphs.

Many proclaim Alys Beach in particular "heaven on earth," owing to its brilliant white buildings, stunning ocean views and 20-acre nature reserve. With a 2003 master plan by Miami-based Duany Plater-Zyberk & Company, the 158-acre development occupies the last beachfront property on the Panhandle along highway 30A, and is affectionately named after the matriarch of the town's founders, who purchased the land in 1978.

The town takes its design cues from the white sculptural stucco of Bermuda and the patio houses of Antigua, Guatemala. As at Seaside, WaterColor and Rosemary Beach (also planned by DPZ), the pedestrian and cyclist take precedence over the motorist – all streets lead to the waterfront, with wide avenues, private court-yards and plentiful gathering spaces. And in keeping with other New Urbanist tenets, the ethos of sustainability underpins the design of each building. The approach is traditional, rather than purely technological; masonry construction ensures durability and energy efficiency and most home sites are oriented to maximize passive solar heating and cooling from the sun and Gulf breezes.

Since 2003, Alys Beach has grown under the direction of its founder, Jason Comer, and of Town Architects Marieanne Khoury-Vogt and Erik Vogt, who closed up shop in Miami to take the job. Sustainability is integral to their design process. "For our generation of designers and builders, seamlessly combining aesthetics and environmental performance is not only important, it also hopefully enhances the beauty and character of our work," says Khoury-Vogt. "We don't think it has to be a compromise."



Fonville Press is a 650-sq.ft. bookstore/coffee shop and tapas/wine bar, and the first amenity to be built by Khoury & Vogt Architects at Alys Beach, a New Urbanist community on Florida's Panhandle. All Photos: Tommy Crow Studios unless otherwise noted

Right: The architecture of Alys Beach is inspired by Bermuda and Antigua, Guatemala. White stucco walls and roofs give the town a sculptural appearance and keep homes and neighborhoods cool in the Florida sunshine.

Below right: Two adjoining courtyards flank Fonville Press, bringing the total exterior space to 1,343 sq.ft. To the east, the sunrise court is a popular spot for morning coffee, while the sunrise court to the west is busy for wine and tapas in the evening. Floorplan: courtesy of Khoury & Vogt Architects

Much of the town was yet to be built in 2006 - less than 10% of its properties had been completed - so providing a place for prospective buyers, as well as locals, to gather throughout the day and into the evening was Khoury & Vogt Architects' (KVA) first task. "As it was going to be the first amenity for the town, we all felt it was very important to build it early on," says Khoury-Vogt. "And we felt it was a wonderful opportunity to design a little jewel that would draw people in."

From the outset, the firm was faced with two non-negotiable challenges – too little space and too little time. The building had to be as small as its function would allow, and crucially, it had to be built in just three months. "We saw its size as an advantage actually," says Khoury-Vogt. "It forced the

program and the space to be designed as efficiently and tightly as possible. And as you see in wonderfully congested cities like Paris and New York, when a retail space is popular and heavily frequented, it can really add to one's experience of it."

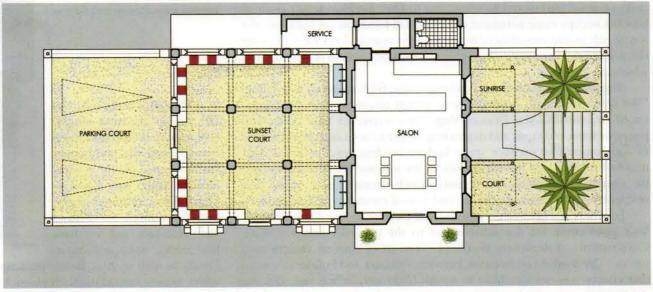
The result was Fonville Press - a café, international newsstand and bookshop by day and a wine and tapas bar by night. Its 650-sq.ft. interior is complemented and flanked by two adjoining courtyards, which total 1,343 sq.ft of exterior space. Due to its location on the corner of the main street and a residential avenue, it has two distinct elevations; one monumental and easily recognizable as a retail establishment, the other smaller and more domestic in scale.

Masonry poured solid with concrete forms the shell of Fonville Press, which has a 20-in. cavity wall all round. Primarily, this construction is required to resist hurricane-force winds, but the thickened walls allowed KVA to build recessed bookshelves, which line the interior walls from the floor to the 16-ft.-high ceiling. Doors and windows by Zeluck of Brooklyn, NY, are solid mahogany with impact-resistant and insulated glass, and are returned 12 in. into the wall. "We wanted the impression of heavy walls where the wall thickness reveals itself, such as at windows and door openings," says Khoury-Vogt. "But occupying the cavity walls on the interior allowed us to carve up the space where it was programmatically required. And on the exterior, particularly on the retail frontage along the main street, the returns are splayed to give the impression of a deep thickened recess, which gives a great shadow line."

The roof is constructed in a similarly durable fashion. Concrete roof tiles were adhered and screwed to the deck before white stucco – which forms the finish surface of the entire building – was applied. The stucco reflects the sun, reduces heat gain, allows the walls to breathe and reduces the need for repeated painting. Bamboo awnings and wood trellis over the windows and doors, as well as cross-ventilation in three directions, naturally cool the building.

Thick walls provide an insulating value that far exceeds standard requirements, resist hurricane force winds and accommodate the recessed bookshelves that line the interior. Photo: Jack Gardner

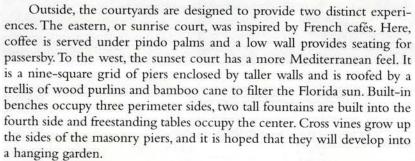








Bamboo awnings and wood trellis cover the windows and doors, providing shelter from the sun and aiding cross-ventilation. Photo: Jack Gardner



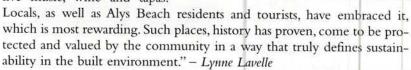
Together, the spaces form a daily narrative, from morning to evening. "We saw a wonderful opportunity to design spaces that can be experienced sequentially," says Khoury-Vogt. "You arrive, get your coffee and pastry, or wine and tapas, and depending on the time of day, go out to one of the courts. The outdoor space had to be developed in a way that matched or exceeded the experience of the interior. This complemented the overall vision of the community, which stresses a way of life that embraces what the Florida climate and natural environment has to offer."

Fonville Press opened for business, and on time, in July 2006. Khoury-Vogt gives credit for this achievement to the general contractor, Wave Construction, of Rosemary Beach, FL. "The strict limit on construction meant a day-to-day collaboration between architect and builder to ensure that quality was not sacrificed to speed. Ultimately, it was not, and the deadline was met, both achievements due to the heroic efforts of the builder and its trades."



Above and Right: The sunset court is reminiscent of Mediterranean design, with benches built into the tall perimeter walls, fountains and freestanding tables, all sheltered by a trellis of wood purlins and bamboo cane. Photos: Jack Gardner

Though it is the least visible, perhaps the most sustainable feature of Fonville Press is how warmly the community has welcomed it. "It is wonderfully lively," says Khoury-Vogt. "We've instituted "aprèsbeach" evenings on Fridays and Saturdays, and we have live music, wine and tapas.







Fonville Press has proven popular with residents of Alys Beach, locals and tourists alike. It regularly hosts live music, and has instituted weekend "apres-beach" evenings, for sundown tapas and drinks. Photo: Jack Gardner

Restoration & Renovation

Winner: White & Borgognoni Architects, P.C.



Project: Union Station, Springfield, IL

Architect: White & Borgognoni Architects, P.C., Carbondale, IL; Bill Borgognoni, AIA, principal in charge; Bryan Cobin, construction administrator

General Contractor: Halverson Construction Co., Inc., Springfield, IL

Downtown Revival

ne Saturday in 2006, architect Bill Borgognoni was approached by a man as he observed the construction of the new clock tower atop Union Station in downtown Springfield, IL. Borgognoni, unbeknownst to the man, was the principal in charge of the restoration and rehabilitation of the turn-of-the-century structure for Carbondale, IL-based White & Borgognoni Architects. "Isn't it great they're fixing up the train station?" said the man, a native of Springfield who was heading across the street to the recently opened Abraham Lincoln Presidential Library and Museum (ALPLM). "But, you know, they really messed it up by putting that tower on it – it was never there when I was a kid."

The man was right, but only because he was too young to have remembered Union Station prior to the mid-1940s. For over a century, since it was completed in 1898 to a design by Francis T. Bacon of the Illinois Central Railroad, the 22,530-sq.ft. Romanesque Revival structure has occupied the northern portion of the Springfield block bounded by Jefferson, Madison, Fifth and Sixth streets. Indicative of the station's age, a fire insurance map from 1896 showing neighboring businesses speaks of a different era: a sausage factory across Madison Street to the north; a stone yard, a wholesale liquor store and a hay and feed store within the same block to the south. Union Station's original layout – a two-story central pavilion surrounded on three sides by open-air waiting platforms – included ticket offices flanked by a "Men's Waiting Room" and a "Women's Waiting Room." Up until 1946, it was topped by an ornate 150-ft.-tall clock tower.

Borgognoni is not positive, but he has two theories as to why the clock tower was removed. "There may have been some maintenance that needed to be done that would have cost a lot," he says. "But, more than anything, the attitude after World War II was to look to the future and a modern society – I think it was believed that the tower gave the station too much of an antiquated look." Either way, with the loss of its clock tower, the streamlined station was somewhat symbolic of the general decline of the downtown area.

Train service at the station was discontinued in 1971, and Borgognoni says it was likely vacant for much of the next 15 years. In 1985, with financing from Springfield resident Michael Scully, the station was stabilized and rehabilitated as a boutique shopping mall. By that time, many of the storefronts in the area were boarded up; a Goodyear tire shop occupied the southern portion of the block along Jefferson Street.

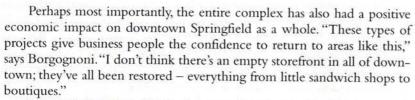
In 1999, after a decade of leasing the building for office use, the State of Illinois purchased Union Station. Under the direction of Julie Cellini, chairperson of the Illinois Historic Preservation Agency (IHPA), the state embarked on a new vision for the National Register of Historic Places-listed building. Eight years later, the restored and rehabilitated station – with its clock tower back in place – opened as the visitors' center for the ALPLM. According to Borgognoni, the ALPLM has had 1.6-million visitors since it opened in 2006; operating as the visitors' center, Union Station has had over 60,000 visitors since it was unveiled in the spring of 2007.



Seen from the south with Union Square Park in the foreground, the rehabilitated Union Station in Springfield, IL, now serves as the visitors' center for the recently completed Abraham Lincoln Presidential Library and Museum, located across Sixth Street to the east. The entire complex is indicative of the impact that such projects can have on long-declining downtown areas. Photo: Illinois Historic Preservation Agency



Designed by Francis T. Bacon of the Illinois Central Railroad, Union Station served as a train depot from 1898 to 1971; by 1985 (right), it had been stabilized and transformed into a boutique shopping mall. Photos: Illinois Historic Preservation



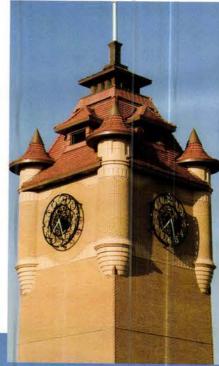
White & Borgognoni's involvement began in 2000, when the firm undertook an assessment and historic structures report. Working closely with the IHPA, White & Borgognoni followed the Secretary of the Interior's Standards for Rehabilitation, which mandate minimal changes to a building's defining characteristics and preservation of its historic character. "We identified the parts of the station that were original and the parts that were added slightly later, and we determined which areas were most critical," says Borgognoni. "The idea was to restore the exterior and rehabilitate the interior, and in the rehabilitation, come as close to restoration as possible."

Springfield-based Halverson Construction Co. began work on Union Station in 2005. In the interior, decorative wood trim, paneling and the historic maple floors were refinished and matched and replaced where missing or damaged beyond repair. New lighting was manufactured by St.



Louis Antique Lighting; public restrooms were integrated into less historic areas; and a new heating/cooling system was installed in the basement and run through crawl space. In bringing the station up to current code, fire stairs were added at the extreme east and west ends of the building. The restored second floor now contains offices for the ALPLM and the "Looking for Lincoln" heritage tourism program. The historic waiting rooms on the first floor now serve as orientation galleries for the visitors' center.

On the exterior, restoration included re-pointing historic brick and stone; replacing terra-cotta roofing with matching tile (executed by New Lexington, OH-based Ludowici Roof Tile); and restoring the ornamental





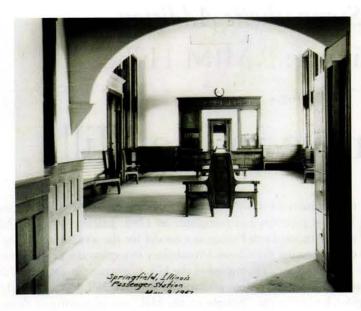
Seen in this 1947 photograph (right), the original layout included the "Women's Waiting Room" in the eastern wing with the Baggage Room beyond; both are now part of the visitors' center (far right) for the Abraham Lincoln Presidential Library and Museum. Historic photo: Illinois Historic Preservation Agency; contemporary photo: Terry Farmer Photography

ironwork and wood windows. But the major undertaking on the exterior was the restoration of the 20-ft.-square clock tower to its 1898 appearance – a process aided

by the original drawings and historic photographs from the IHPA.

White & Borgognoni's initial geo-technical investigation revealed "very poor soil" below the clock tower (which had been lopped off at the roofline), and groundwater was encountered less than 20 ft. below street level. Because the original foundation was too deteriorated to support the new internal steel structure (utilized because of wind-sheer concerns), concrete-filled steel caissons were used. "We drilled down about 60 ft. – 40 ft. down to bedrock and 20 ft. into bedrock – and 8-in.-dia. steel caissons were put down every 4-5 ft. on center and filled with concrete," says Borgognoni. "A 7-ft.-thick reinforced-concrete ring ties those together in the basement, and then the steel frame sits on top of that."

The steel frame was inserted without sacrificing the station's historic fabric; the skin of the tower is a masonry veneer of matching brick and terra cotta. Using the original drawings and historic photographs, Orchard Park, NY-based Boston Valley Terra Cotta created molds to reproduce the original ornate terra-cotta elements; the turrets were formed in site-cast reinforced concrete; and the clock was re-created – albeit an electronic version – by Medfield, MA-based Electric Time. While the plan was to paint the numerals and hands a gold color, Michael Scully stepped forward once again and financed gold leaf.



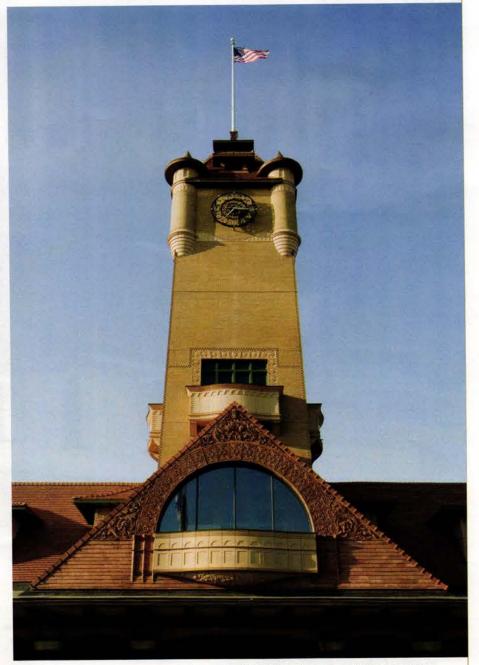


In 2005, White & Borgognoni was also tasked with turning the area south of Union Station into Union Square Park. Today, the park serves as a link between the museum, library and visitors' center. Many visitors come to the park first and then through the visitors' center, which Borgognoni says is really a concierge center for not only the museum and library, but also for all of the historic sites in Springfield. (White & Borgognoni also restored Abraham Lincoln's law offices – also known as the Lincoln-Herndon Law Office – a block south of Union Station a few years ago.)

Borgognoni is quick to point out that the Union Station project was a team effort, highlighting the efforts of Julie Cellini, chairperson of the IHPA; Bob Coomer, the recently retired director of the IHPA; Bob Weichert and Anthony Rubano of the IHPA; Gary Kitchen, the project manager from the Illinois Capital Development Board; and Halverson Construction, which Borgognoni says was dedicated to making the restoration and rehabilitation of Union Station a success. "This project really shows what people can do working together," he says. "It really changed the whole climate in downtown Springfield." – Will Holloway



Throughout the interior, woodwork – as well as the historic maple floors – was restored and re-created where missing. Photo: Terry Farmer Photography



Completed in 2007 after two years in construction, the restoration and rehabilitation of Union Station has been a catalyst for the economic revitalization of downtown Springfield, where the restored clock tower is once again a highly visible landmark in the skyline. Photo: Terry Farmer Photography

Sympathetic Addition

Winner: RMJM Hillier



Project: Entry and addition to Virginia Capitol, Richmond, VA

Architect: RMJM Hillier, Philadelphia, PA; Dr. George C. Skarmeas, AIA, director of historic preservation; Sonja Bijelic, AIA, project architect; Robert Hotes, AIA, project manager; Jim Garrison, AIA, designer of entryway

Associate Architect: BCWH Architects, Richmond, VA

Construction Manager: Gilbane Christman Association, Laurel, MD, and Alexandria, VA

Architectural Historian: Calder Loth, Department of Historic Resources, Commonwealth of Virginia

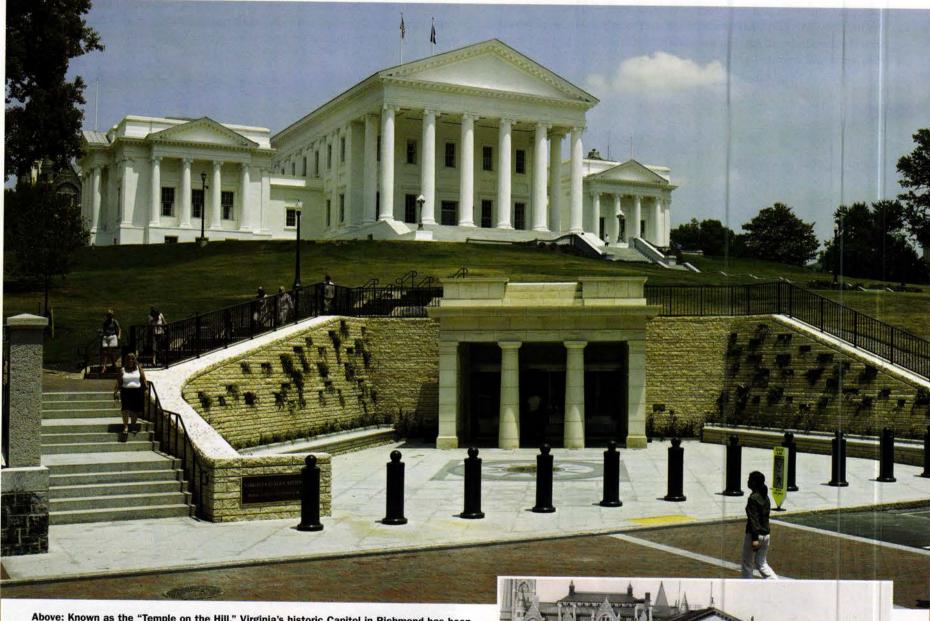
Temple in the Hill

ne of America's most venerable buildings, the Virginia Capitol in Richmond, VA, was designed by Thomas Jefferson and completed in 1789. Jefferson used the Maison Carrée, an ancient Roman temple in southern France as a model for the structure, making it the first public building in the country to use the Classical vocabulary to express the new American democracy. It was also the first major public building to be constructed in the U.S. following the signing of the Declaration of Independence.

After standing in its prominent position on top of a hill in Richmond, VA, for more than 200 years, the Virginia Capitol, known as the "Temple on the Hill," was beginning to show its age. It had dominated the city throughout the years, even surviving the Civil War, serving both as an inspirational building and as a working Capitol. In 2003, the Commonwealth of Virginia decided that the building should be restored and expanded. A nationwide search resulted in a decision to bring in Hillier's (now RMJM Hillier) Preservation Architecture Studio, Philadelphia, PA, to design the new addition and restore the original building.

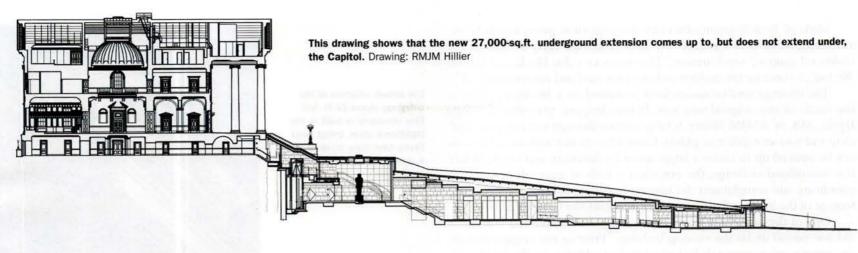
Four years later, the \$105-million project was completed and the new Capitol opened to the public in May of 2007. The project included the design and construction of a new 27,000-sq.ft. extension with a Doric temple-like entry and the restoration of the historic building to its 1908-09 appearance. The extension was placed underground to maintain the integrity of the historic "Temple on the Hill." It provides a new visitor entrance area to accommodate the increasing number of tourists that come to Richmond, projected at about one million a year. These visitors now enter through a temple-like entry designed by Jim Garrison, project architect and member of the design team.

The design of the extension and of the Classical entry to the extension was a complex process. When Dr. George Skarmeas, AIA, Lead Design and Preservation Principal of RMJM Hillier's Preservation Architecture Studio, was interviewed by the Virginia state legislature for the project, he explained that he could not present a solution for the extension without studying the building. "I think this is why we were selected," he says. "We



Above: Known as the "Temple on the Hill," Virginia's historic Capitol in Richmond has been restored to its 1909 appearance and updated with new systems and a new underground 27,000-sq.ft. extension. The four-year \$105-million effort was led by RMJM Hillier of Philadelphia, PA. The temple-like Classical entrance to the extension was designed to coordinate with the historic building. Photo: Tom Crane

Right: Completed in 1789, the original Virginia Capitol was designed by Thomas Jefferson. He used the Maison Carrée, an ancient Roman temple in southern France as a model for the structure. This photo was taken in 1893, before the two wings were added. Photo: courtesy of Valentine Richmond History Center



did not come in with an answer. We came in saying it needed more study." The team then raised a series of issues to be addressed before determining the placement of the addition.

For the entry itself, the team experimented with a number of options, from a simple modern entrance, to more complex expressions, before arriving at the current Doric-style temple entrance, which is modeled after an early 19thcentury example nearby at Bremo, near Richmond, where General John Cocke had built a country residence overlooking the Fluvanna River. In 1847 Cocke brought Alexander Jackson Davis in to design a small temple structure over a spring at the base of the hill. His "Temperance Temple" was modeled after the Choregic monument Thrasyllos at the base of the Acropolis in Athens, and this in turn became the model for the new entry at the Capitol in Richmond.

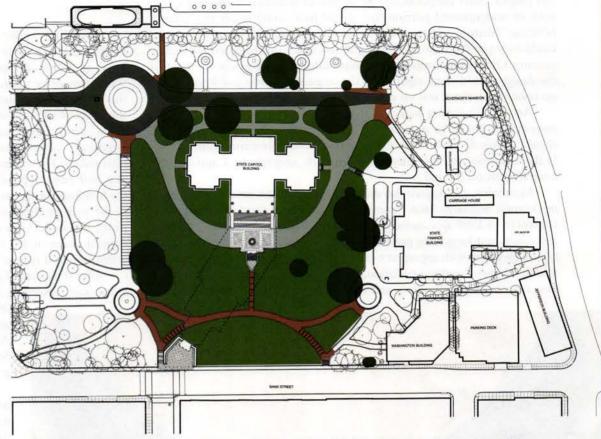
"We started by creating a new set of base drawings from the original HABS (Historical American Buildings Survey) field notes. Redrawing the building in a CAD format gave us several months of hands-on experience with Jefferson's Classical architecture and the subsequent additions and we developed a sense that Classical design was the correct way to go," says Jim Garrison, AIA, RMJM Hillier. "Originally I did a Beaux Arts design, but on studying the Temperance Temple, we changed direction. We also abandoned computer design and went to traditional architectural techniques using clay, cardboard and wood models. The entry was a sensitive issue in the overall project. We struggled to refine it for almost a year."

"We wanted the entry to have a Jefferson connection," says Calder Loth, senior architectural historian, Department of Historic Resources, Commonwealth of Virginia, and a key member of the peer review team who worked closely with the design team for the duration of the project. "Jim and I both thought of Bremo at about the same time. The relationship of this small building built on a hillside was based on the Thrasyllos Monument in Athens, so the new entry has good DNA."

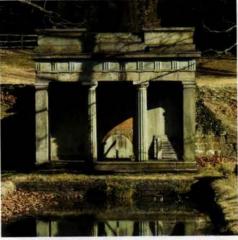
Garrison points out that even though there were historic precedents, the new 250-sq.ft. entry is very much its own building. "The entry is larger than the Temperance Temple and we made a subtle distinction in scale. The columns are a chunky Doric style and the cornice is somewhat simplified. It's a small monumental building on its own. Our goal was to give it a strong presence against the hillside background."

The location of the entrance was selected after studying the area around the Capitol to find a site that would work with traffic flows and security concerns. Most important, however, was the idea that the new entry should provide a dignified entry to the historic Capitol and not harm the character of the setting. The new Bank St. entry set in the bottom of the hill and the underground extension fit these requirements.

Right: The glass doors of the 250-sq.ft. entryway are recessed behind the Classical Doric-styled columns. Drawing: RMJM Hillier



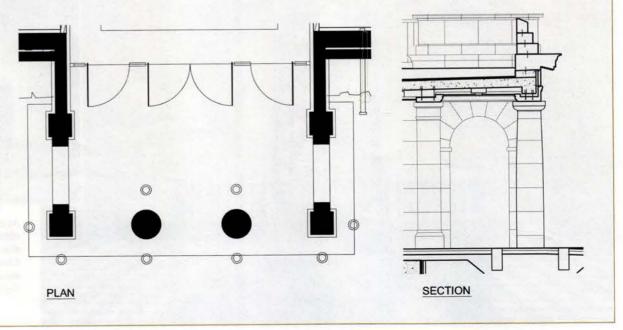
Located on Bank St., the new entryway does not intrude on the original landscape or with the view of the "Temple on the Hill." It is situated on a 58-degree angle to the south of the original structure. Site plan: RMJM Hillier



Designed by Alexander Jackson Davis and built in 1874 on a hillside, the nearby "Temperance Temple" served as a model for the new entryway. Photo: Jim Garrison, RMJM Hillier



This front elevation shows the proportions of the new entry.
Drawing: RMJM Hillier



Made of Texas limestone, the entry uses large cubic pieces in a traditional manner, rather than a veneer. "We insisted that the entry be built in the traditional manner," says Garrison. "The stones are cubic blocks, not veneer. We had to convince the builders to leave their steel and concrete behind."

The underground extension itself is situated on a 58-degree angle to the south of the original structure. It was designed primarily by Sonja Bijelic, AIA, of RMJM Hillier. It takes visitors through security, past a gift shop and into an exhibition gallery. Committee rooms with movable walls can be opened up to create a larger space for functions and events. While it is streamlined in design, the extension is built of materials designed to coordinate and complement the historic buildings. It increases the square footage of the building by about a third, bringing the total to 120,000 sq.ft.

One of the important points in the design of the addition was that it did not extend under the existing building. "Prior to our engagement on this project, other proposals had advocated an addition on the north side, with an underground portion that would have come under the original building," Skarmeas notes. "This would have cost millions of dollars and could have put the historic building at risk and required extensive underpinning. Our position was that the south side was the best choice, and that the design should come right up to the original Jefferson building, but not go under it, so there was no risk of damage to the foundation."

Another important aspect of the new entry and addition is that it is reversible. It can all be removed without damaging the original structure, should people decide in 100 years that they no longer want a visitors' area. It also maintains the integrity of the grounds, keeping the Capitol as the central focus on the hill.

Meanwhile the project also included extensive restoration of the existing historic buildings. After extensive research, it was decided to restore the Capitol to its 1909 appearance. The program called for the treatment, repair, restoration and long-term preservation of the building and for the restoration of all spaces with appropriate colors, finishes, carpet and furniture. New roofing and new heating, ventilation, air conditioning, fire alarm, fire suppression, security, communications and voting equipment were also needed.

The robust columns of the entryway stand 12 ft. tall. This structure is built in the traditional style, using solid Texas limestone instead of a veneer. Photo: Jim Garrison, **RMJM Hillier**

The first order of business was to protect the building from continued water damage by replacing the roof and by removing the layers of 1904-08 stucco, a hard impermeable Portland cement-based mix, and the Tnemec paint that had been applied to

the building during the 1960s renovation. These had trapped moisture within the walls causing delamination and masonry damage. "This [the Tnemec paint] was done with all good intentions," says Skarmeas, "but it actually trapped water in the building and was the cause of moisture movement within the wall system."

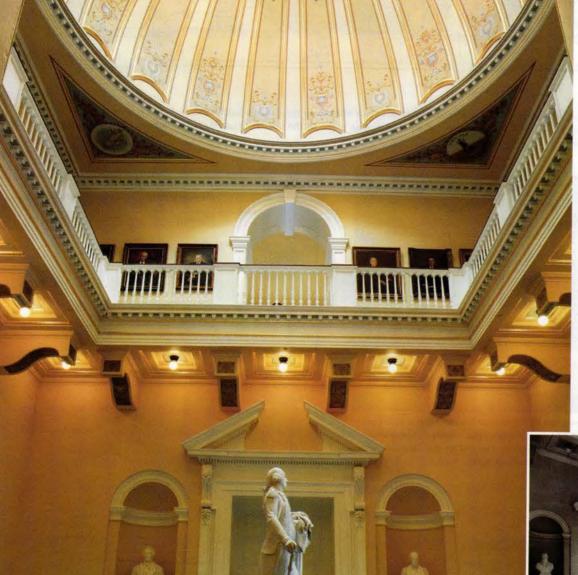
After the layers of paint and mix were stripped, extensive conservation, repair and repointing was required. A new hydraulic lime cement-based

stucco was developed to recreate the 1909 appearance. This exterior restoration was conducted by Andy Ladygo, contracted by Evergreene Painting Studios of New York City. No evidence was found of pre-1904 stucco treatments, finishes or colors.

Also on the exterior, it was found that the original columns, wood core wrapped in brick and stucco, in the portico were in place and had been widened in the process of reinforcement during the 1904-1909 renovation. Since the modification provided adequate structural strength, it was decided to leave the columns as they were.

In the interior of the building, the architects discovered 18th-century millwork dating to the Jeffersonian period. They also found enough of the 1908-1909 decorative painting scheme to reconstruct it throughout the structure. John Canning Painting and Conservation Studios restored the decorative painting throughout the building and Evergreene Painting Studios restored the historic stucco. Ornamental plaster was supplied by Hayles & Howe Ltd. Ornamental Plasterers and historic lighting was supplied by Crenshaw Lighting, with Gary Steffy Lighting Design doing the overall lighting design.

Now repaired, restored, renovated, updated and enlarged, Richmond's Temple on the Hill is ready to serve the state and the public for at least another 200 years. - Martha McDonald





At the heart of the Virginia Capitol is the rotunda with the statue of George Washington by Jean-Antoine Houdon, which stands in the center of the rotunda under an interior dome. Classical detailing such as the broken pediments and cornices are found throughout the building. Photo: Tom Crane; Historic photo: courtesy of Valentine Richmond History Center



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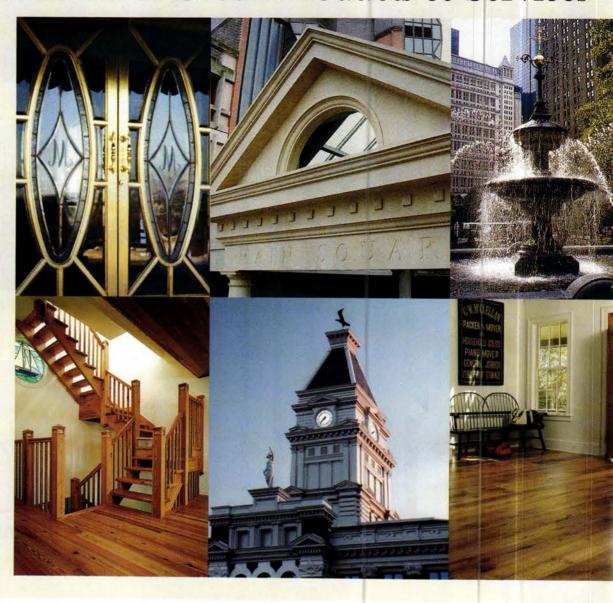


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2545. Customlightstyles.com	2470. Heather & Little, Ltd	1834. Cross Creek Architectural Salvage

Historical Products Showcase

A.B. Raingutters

800-322-1245; Fax: 714-630-0812 www.abraingutters.com Anaheim, CA 92806

Manufacturer of gutter & downspout products: bronze, aluminum, steel & copper; specialty chemicals & fasteners; installation services.

Write in No. 1697

Abatron, Inc.

800-445-1754; Fax: 262-653-2019 www.abatron.com Kenosha, WI 53144

Manufacturer of products for restoration & repair: wood consolidation & repair, concrete patching & resurfacing, metal restoration, moldmaking & casting, structural adhesives, protective coatings, strippers & related products.

Write in No. 1300

Aladdin Light Lift, Inc.

901-385-0456; Fax: 901-385-0533 www.aladdinlightlift.com Memphis, TN 38133

Manufacturer of motorized lift systems: Light Lift automatically lowers chandeliers for easy cleaning & bulb replacement; some models handle fixtures weighing up to 1,200 lbs.

Write in No. 7850

American Limestone

812-876-0076; Fax: 812-876-0666 Stinesville, IN 47464

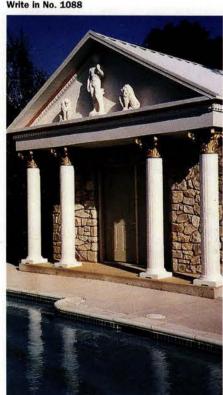
Supplier of stone blocks & slabs: Indiana limestone, Mansfield brownstone, red stone, buff, wheat & other sandstones. Write in No. 1938

Architectural Products by Outwater, LLC

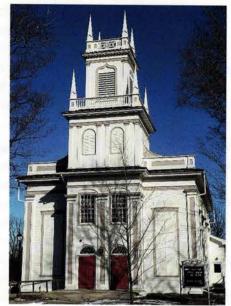
800-835-4400; Fax: 800-835-4403 www.outwater.com Bogota, NJ 07603

Manufacturer of 65,000+ decorative building products: architectural moldings & millwork, columns, capitals, wroughtiron components, balustrading, door hardware, lighting, ceiling tile, furniture & cabinet components & more.

Write in No. 1088



Outwater supplied these fluted columns with gold-leaf Corinthian capitals.



Decorative elements and trim from AZEK were used on this church.

AZEK Building Products, Inc.

877-275-2935; Fax: 570-504-1215 www.azek.com

Moosic, PA 18507

Manufacturer of PVC exterior trim products: trimboards, sheets, beadboards, cornerboards & millwork.

Write in No. 1428

Bathroom Machineries, DEA

209-728-2031; Fax: 209-728-2320 www.deabath.com Murphys, CA 95247

Supplier of Early American & Victorian bathroom fixtures & accessories: antique & reproduction clawfoot tubs, high-tank toilets, pedestal sinks, mirrors & many one-of-a-kind items.

Call for more information.



This Roman-style bathtub is one of the many fixtures available from Bathroom Machineries.

Brosamer's Bells

517-592-9030; No fax www.brosamersbells.com Brooklyn, MI 49230

Supplier of pre-owned bells: more than 40,000 lbs. in stock; restoration of castbronze bells; yard, fire engine, railroad, church & tower bells; many styles; all sizes.

Write in No. 7130



Brosamer's Bells supplies pre-owned cast-bronze bells for railroads, churches, towers and other applications.

Cedar Valley Mfg.

800-521-9523; Fax: 831-636-9035 www.cedar-valley.com Hollister, CA 95023

Supplier of premium-grade architectural cedar shingle panels: exposures of 41/4, 5.3- & 71/s-in.; straight or staggered butt lines; all are 96x21 in.

Write in No. 1832

Chelsea Decorative Metal Co.

713-721-9200; Fax: 713-776-8661 www.thetinman.com Houston, TX 77074

Manufacturer of pressed-tin ceiling & wall panels: tin-plated steel has shiny silver finish, can be painted with oil-based paint; 3-, 6-, 12- & 24-in. patterns ranging from Art Deco to Victorian; easy-toinstall 2x4-ft. sheets.

Write in No. 190

Custom Home Accessories, Inc.

800-265-0041; Fax: 916-635-0228 www.mailboxes.info Rancho Cordova, CA 95742

Manufacturer of metalwork accessories: weathervanes, cupolas, finials, roof caps, mailboxes, lighted address plaques, signs & lampposts; cast aluminum, bronze, brass & copper; custom sizes.

Write in No. 527



Custom Home Accessories' Regency cluster mailboxes are available in black, bronze and sandstone colors.

FAAC International, Inc.

800-221-8278; Fax: 970-223-2588 www.faacusa.com Cheyenne, WY 82007

Manufacturer of gate operators: swing-, slide- & barrier-gate systems.

Write in No. 531



FAAC International's hydraulic in-ground swing gate operators are designed to handle large gates.

Faubourg Lighting

866-803-7518; Fax: 601-894-5195 www.faubourglighting.com Hazlehurst, MS 39083

Manufacturer of traditional & period lighting: exterior copper gas-burning & electric fixtures; wall mounted, hanging post or any bracket; CSA-certified; custom-design, -color & -size options.

Write in No. 424



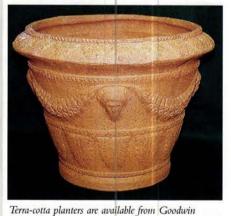
Faubourg Lighting's handcrafted copper lantern is offered in a variety of sizes in natural gas, electric and LPG models.

Goodwin International

714-241-0942; Fax: 714-241-1874 www.goodwininternational.com Santa Ana, CA 92707

Supplier of landscape & garden ornament from around the world: stone fountains, benches, planters, urns & sculpture; sandstone planters & terra cotta; various design styles & sizes.

Write in No. 4160



International.

James Peters & Son, Inc.

215-739-9500; Fax: 215-739-9779 www.jamespetersandson.com Philadelphia, PA 19122

Manufacturer of ornamental gate, shutter & barn door hardware: gate, barn & stable hinges; shutter bolts, shutter dogs & pull rings.

Write in No. 1240

Kay Park Recreation

800-553-2476; Fax: 319-987-2900 www.kaypark.com Janesville, IA 50647

Manufacturer of park equipment: outdoor tables, benches, grills, bike racks, waste receptacles & planters.

Write in No. 1935

311 Peruvian Avenue ~ Palm Beach, Florida 33480 ~ 561.832.0731



THE BERMUDA STYLE RESIDENCE FOR WHICH ARCHITECTS RAPHAEL SALADRIGAS AND KEN BROWER WON THE PRESERVATION FOUNDATION OF PALM BEACH'S 2008 ELIZABETH L. AND JOHN H. SCHULER AWARD.

The Preservation Foundation of Palm Beach congratulates architects Raphael Saladrigas and Ken Brower of Brower Architectural Associates, Inc. on winning its 2008 Elizabeth L. and John H. Schuler Award. The award was founded in 2005 by Mr. and Mrs. Schuler to recognize new architecture that is designed and built in keeping with the traditional styles of Palm Beach architecture. John Schuler served as chairman of the Town of Palm Beach Architectural Review Commission for many years and is the Treasurer of the Foundation's executive committee of the board of trustees.

www.palmbeachpreservation.org

WRITE IN NO. 1941



PRESERVATION TRADES NETWORK

PO BOX 249 AMHERST, NEW HAMPSHIRE 03031-0249

PHONE: 866-853-9335 FAX: 866-853-9336

E-MAIL: info@PTN.org WEBSITE: www.PTN.org or www.IPTW.org

12th Annual International Preservation Trades Workshop

very IPTW offers tremendous opportunities for learning new skills, earning valuable AIA/CES credits, making contacts, and developing networks for collaboration and exchange, but no "gathering of the trades" would be complete without plenty of occasions to celebrate "community." IPTW 2008 will be no exception, and this year we will have a special opportunity to gather at a remarkable site, which resonates with the complex, vital and deeply written heritage of the traditional trades.

The historic Jones Brothers Granite Shed, home of the Vermont Granite Museum, will come alive with the sounds of the trades during the day, and music and camaraderie at night. In addition to three days of demonstrations, presentations and workshop sessions in the traditional trades and preservation education and practice, workshop participants can look forward to the following special events:

- Traditional Trades Demonstrations
- · 2008 Askins Achievement Award Presentation
- Annual PTN Live Auction
- PTN Live Music and Gathering

If you're looking for another way to connect with your friends and colleagues in the evenings, PTN Vice-President John Friedrichs is planning an alcohol-free gathering for PTN members and IPTW attendees to meet in a relaxed atmosphere of sharing and fellowship.

PTN Advisory Group

The PTN Advisory Group was formed at IPTW 2007 in Frederick, MD. It is open to all PTN members to work together to provide advice, suggestions, guidance and coaching to the PTN board and leadership. A forum has been established online as well, in the PTN "Cookie Jar" where members of the PTN Advisory Group can exchange ideas and information, make suggestions and recommendations, and find ways to be involved and informed with the PTN community. We need and welcome your participation, your ideas and your help in making PTN better!

Outreach

The PTN community continues to expand on a global and international level. Activities in Eastern Europe have included traditional trade related connections to Poland, Lithuania, Ukraine and Russia. Not to be forgotten are our member connections with the UK,



The historic Jones Brothers Granite Shed in Barre, VT, is the site of the 2008 12th annual IPTW in July.

Germany, Japan and Sweden. Ongoing on-theground support activities of PTN members with hammers in hand continue in New Orleans in coordination with the World Monuments Fund. There are also interesting member activities in Kentucky, Colorado, Ohio, Michigan and California.

Communications

PTN leadership has been working on ways to improve communication and opportunities for volunteer and member engagement in the community.

The PTN website is consistently updated by Lisa Sasser, PTN president. For the latest news and information please check online and bookmark the page. www.ptn.org

The PTN No Name Newsletter is a print, hard-copy newsletter that is mailed to members. It provides community news as well as information on events, projects and individual members.

The Preservation Trades Network (PTN) is a non-profit 501(c)3 membership organization incorporated as an education, networking and outreach organization. PTN is a registered provider of AIA/CES CEUs.

IPTW 2008 - A Place for the Trades
Barre, Vermont - July 18-20, 2008
Registration for full attendance or for half day
(Saturday) is available online.



Hot-stamped leaves from King Architectural Metals can be used in a variety of applications; the elements adorn-ing this railing are available in the company's catalog.

King Architectural Metals

800-542-2379; Fax: 800-948-5558 www.kingmetals.com Dallas, TX 75228

Wholesale supplier of ornamental & architectural metal components: staircases, handrails, gates, fences, furniture, mailboxes, lampposts, finials & fireplace screens; wrought iron & aluminum.

Write in No. 418

Leo Uhlfelder Co.

914-664-8701; Fax: 914-664-8728 www.uhlfeldergoldleaf.com Mount Vernon, NY 10553

Supplier of genuine & imitation gold, silver & aluminum leaf: decorative painting & gilding tools, brushes, books, videos & related items; bronze & aluminum powders.

Write in No. 810



Leo Uhlfelder supplies a wide range of genuine and imitation gold-leaf products.

Nixalite of America, Inc.

800-624-1189; Fax: 309-755-0077 www.nixalite.com East Moline, IL 61244

Manufacturer of humane bird-control products: stainless-steel needle strips, Fliteline wire deterrent & 3 types of bird netting; visual, chemical & audible sys-

tems; free technical & planning services with direct order.

Write in No. 370



Nixalite Premium bird control strips are used at this building in Edinburgh, Scotland, to prevent birds

Phelps Company

802-257-4314; Fax: 802-258-2270 www.phelpscompany.com Brattleboro, VT 05301

Manufacturer of traditional hot-forged solid-brass window hardware: sash pulleys, weights, chains, lifts & locks; stop-bead adjusters, spring bolts, window ventilation locks, casement hardware, storm/screendoor latch sets & more.

Write in No. 6001



The model #LKF18 sash lock from Phelps Company is hot forged from solid brass and hand finished; the internal double-spring mechanism is made of stainless steel.

Preservation Foundation of Palm Beach

561-832-0731; Fax: 561-832-7174 www.palmbeachpreservation.org Palm Beach, FL 33480

Historic preservation foundation for Palm Beach, FL: a private, non-profit membership organization; building & plant preservation; offers lectures & seminars.

Write in No. 1941

PRG, Inc.

800-774-7891; Fax: 301-279-7885 www.prginc.com

Rockville, MD 20849

Supplier of crack monitors, Rilem tubes, RecyClean system, moisture survey equipment, epoxies for wood repair, lowtoxicity borate wood preservatives, fireretardant wood finishes, Proprep scrapers, scanners, books & more.

Write in No. 3030

Signature Hardware

866-475-9715; Fax: 800-682-6826 www.signaturehardware.com Erlanger, KY 41017

Direct distributor of bathroom supplies: cast-iron & acrylic clawfoot bathtubs, porcelain sinks, brass faucets, shower rods & rings; floor registers & air returns: decorative door, window & gate hardware; lighting; mailboxes.

Write in No. 1376

Strom Plumbing by Sign of the Crab

916-638-2722; Fax: 916-638-2725 www.signofthecrab.com Rancho Cordova, CA 95742

Supplier of solid-brass plumbing fixtures & bath accessories: reproduction fixtures, clawfoot & period tubs, showers & fittings; period sinks.

Write in No. 153



Strom Plumbing by Sign of the Crab fabricated this 5 -ft. slipper tub in cast iron.

Texas Metal Industries, Inc.

800-222-6033; Fax: 800-472-3807 www.texasmetalindustries.com Crandall, TX 75114

Supplier of ornamental castings: furniture, gates, fences, mailboxes, signage,

finials, balustrades, stair railings, fountains, benches, grilles, lampposts & urns; aluminum, cast iron & forged steel.



Ornamental aluminum castings from Texas Metal Industries include items such as spears, finials and shoes that can be used on fences and gates.

Weathercap, Inc.

985-649-4000; Fax: 985-847-1237 www.weathercap.net Slidell, LA 70459

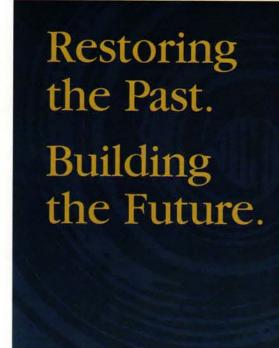
Manufacturer of soft-lead strips: set & bedded in caulking compound/sealant; forms a cap to create a permanent elastic seal for any masonry joint.

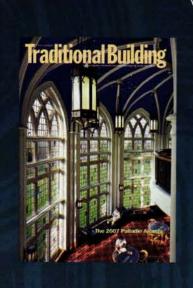
Write in No. 504

Wehrung & Billmeier

773-472-1544; Fax: Same as phone www.wbgoldleaf.com Lake Zurich, IL 60047

Supplier of gilding materials: metallic, silver & gold leaf from 12-24k, aluminum leaf & imitation gold leaf; products sold in books, packs & rolls.















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Preservation Resource Group

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www.PRGinc.com

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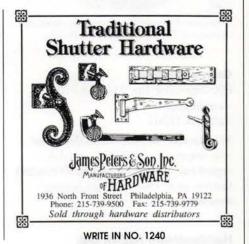
THE FEDERALIST

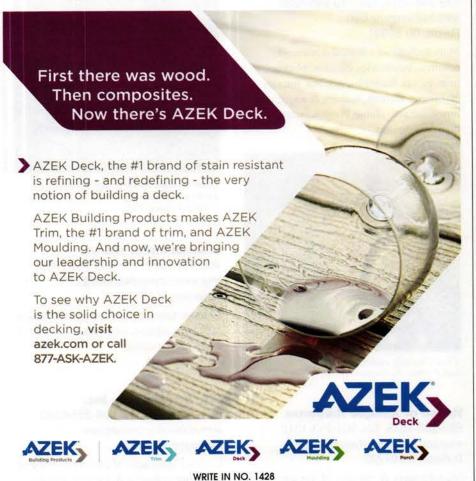
Visit our website at www.thefederalistonline.com



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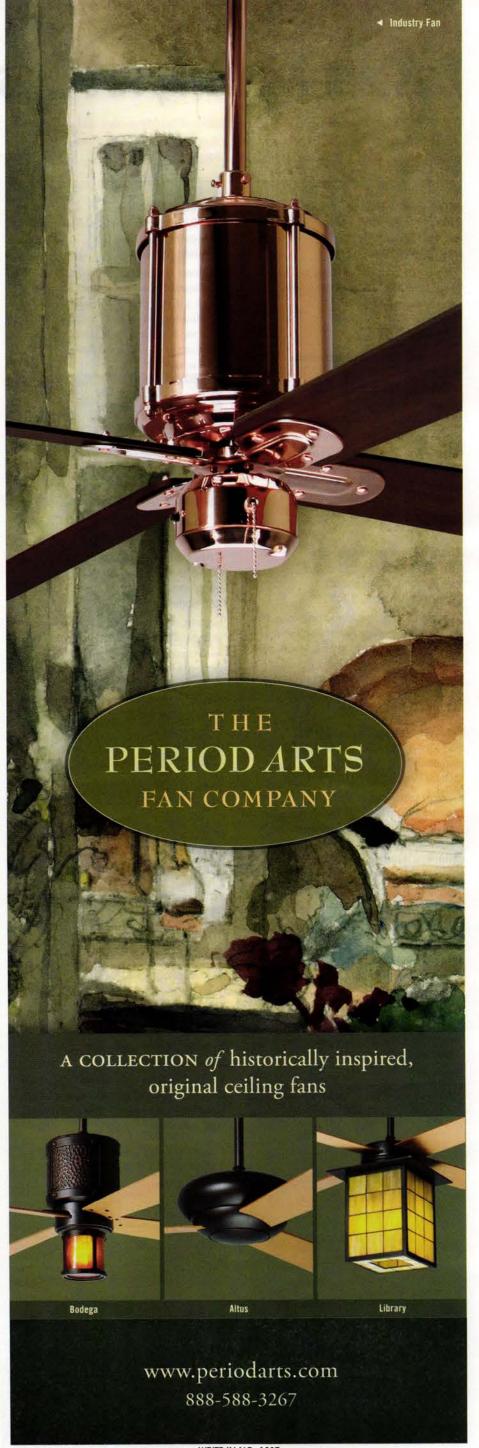






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A Beautiful Bar

212-966-6680; No fax www.abeautifulbar.com New York, NY 10012

Supplier of custom bars: antique, restored & salvaged bars; commercial & residential use; doors, mantels.

Write in No. 1939

Art Casting of Illinois, Inc.

815-732-7777; Fax: 815-732-7475 www.harryspell.com Oregon, IL 61061

Manufacturer of cast-bronze sculpture: pick-up, conservation, restoration & installation; moldmaking, patination, fabrication, off-site laser scanning & digital sculpting; etchings & prints through Adagio Fine Art Gallery.

Write in No. 2705

Authentic Provence, Inc.

561-805-9995; Fax: 561-805-5730 www.authenticprovence.com West Palm Beach, FL 33401

Importer & distributor of antique handcarved stone garden ornament: French limestone & Italian marble; antique gates, wrought-iron & wood gates & trellis; hand-sculpted fountains, plaques, terracotta planters, gazebos & pavilions.

Boston Valley Terra Cotta

888-214-3655; Fax: 716-649-7688 www.bostonvalley.com Orchard Park, NY 14127

Custom fabricator of architectural terracotta products: roof tile & Terraclad (rainscreen system); columns/capitals, cornices, balustrades, garden sculpture & chimneys; standard & custom shapes & colors; replacements & new designs.

Write in No. 160

Buffalo Plastering

716-885-9020; Fax: Same as phone www.buffaloplastering.com Buffalo, NY 14216

Custom fabricator of moldmaking & original sculpture: interior & exterior GRG & FRP columns, domes & more; historical restoration & custom moldings as per drawings.

Write in No. 1671



Buffalo Plastering custom fabricated this eagle and others to sit atop columns at the entrance to Packard Manor, Chautauqua, NY.

Canning Studios

203-272-9868; Fax: 203-272-9879 www.canning-studios.com Cheshire, CT 06410

Restorer & designer of decorative finishes, ornamental plaster & wood: historic-paint analysis; plaster consolidation & stabilization; decorative painting, murals, interior & exterior gilding & wood graining; metal & stone cleaning.

Write in No. 5100



This floral fan design was created by Canning Studios.

Conrad Schmitt Studios, Inc.

800-969-3033; Fax: 262-786-9036 www.conradschmitt.com New Berlin, WI 53151

Creator, conservator & restorer of decorative painting: stained & art glass; ornamental plasterwork; crystalline etched-glass designs; murals, mosaics & statuary; for public & religious buildings; since 1889.

Write in No. 8040 for interiors; 1841 for art glass



This large stained-glass window was restored by Conrad Schmitt Studios for Grace Episcopal Church in Madison, WI; it was given to the church by Esther Green Vilas in 1837 in memory of her husband and six children.

Craftsmen Hardware Co.

660-376-2481; Fax: 660-376-4076 www.craftsmenhardware.com Marceline, MO 64658

Supplier of Arts & Crafts-style hardware: door, window, cabinet & drapery hardware; hand-hammered copper; lighting.

Write in No. 6980



Craftsmen Hardware fabricates a complete line of Arts and Crafts-style, hand-hammered copper furniture hardware.

E.R. Butler & Co.

212-925-3565; Fax: 212-925-3305 www.erbutler.com New York, NY 10012

Manufacturer of historically accurate, premium-quality hardware for doors,

windows & furniture: brass, bronze, nickel, silver & wrought iron; complete design selections of Early American period hardware; many finishes.

Write in No. 2260

EverGreene Painting Studios, Inc.

212-244-2800; Fax: 212-244-6204 www.evergreene.com New York, NY 10001

Decorative-arts studio: murals, decorative painting, gilding, plaster, wood, metal, stone & mosaics; new design, conservation & restoration; ecclesiastical, institutional, public & commercial projects; offices in NYC & Chicago.

Write in No. 2460 for decorative painting; 2678 for plasterwork



EverGreene Painting Studios painted this mural, the Ascension of Christ, for the Baltimore Basicilia.

Gaby's Shoppe

800-299-4229; Fax: 214-748-7701 www.gabys.com Dallas, TX 75207

Manufacturer of handcrafted decorative iron drapery hardware: for curved & angled bay windows & arches; 30 standard finishes; more than 100 finial options.

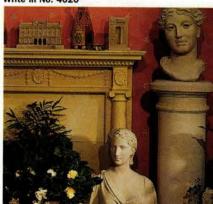
Write in No. 2520

Haddonstone (USA), Ltd.

719-948-4554; Fax: 719-948-4385 www.haddonstone.com Pueblo, CO 81001

Manufacturer of Classical stonework: columns, balustrades, benches, planters, urns, pavers, fountains, gazebos, interior ornament, mantels, statuary & more; cast limestone resembling Portland stone; more than 500 designs.

Write in No. 4020



These Classically modeled sculptures and mantel are available from Haddonstone (USA).

House of Antique Hardware

888-265-1038; Fax: 503-233-1312 www.houseofantiquehardware.com Portland, OR 97232

Manufacturer & supplier of vintage reproduction door, window, cabinet & furniture hardware & accessories: Federal, Victorian, Colonial Revival, Craftsman & Deco styles; push-button switches & plates; registers & grilles.

Write in No. 1096

John Tiedemann, Inc.

877-600-2666; Fax: 201-991-3419 www.johntiedemann.com North Arlington, NJ 07031

Restorer of interior elements: interior painting & design, liturgical renderings, decorative granite flooring, faux finishes, murals & frescoes, gilding, art glass, fine art, paint & plaster analysis, historic analysis & testing.

Write in No. 1765



The plaster restoration in this decorative ceiling was done by John Tiedemann.

Lehmann Glass Studio

510-465-7158; Fax: Same as phone www.lehmannglass.com Oakland, CA 94607

Custom manufacturer of wheel-cut artglass panels: etched & beveled art glass; door & lighting-fixture glass; historic & modern designs; historical reproductions.

Write in No. 4730



Lehmann Glass Studio fashioned this cut-glass divider panel, measuring 35x58 in., for an historic building in Aspen, CO.

McLean Metal Works

409-762-7202; Fax: 409-762-2855 http:www.mcleanmetalworks.com Galveston, TX 77550

Custom fabricator of metalwork: fences, railings, sculpture, canopies & pavilions; historic restoration.

Write in No. 1942

O.K. Foundry Co., Inc.

804-233-9674; Fax: 804-233-6240 www.okfoundrycompany.com Richmond, VA 23224

Custom fabricator of cast-iron elements: sculpture, columns & capitals, fencing, bollards, stanchions, mantels, fireplaces, chimneys & accessories.



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ART CASTING OF ILLINOIS, INC.

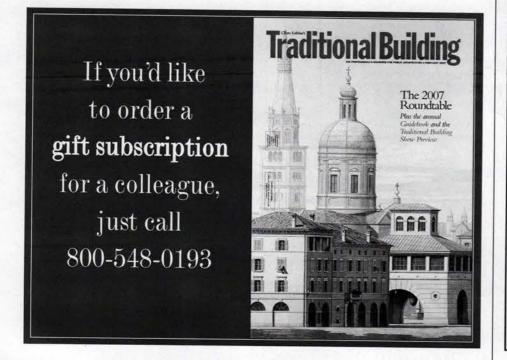
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WRITE IN NO. 2705





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Categories:

- Restoration & Renovation
- Adaptive Reuse &/or Sympathetic Addition
- New Design & Construction less than 30,000 sq.ft.
- New Design & Construction more than 30,000 sq.ft.
- Public Spaces: Parks, Plazas, Gardens, Streetscapes

Corresponding awards will also be given for residential projects.

Judging will be by a panel of distinguished architectural designers selected by the editors of *Traditional Building* and *Period Homes*.

The deadline for entries is November 15, 2008.

For details on the awards program, judging criteria and submission requirements, go to

www.palladioawards.com

www.traditionalbuilding.com

Internet gateway to historical products

TRADITIONAL RUILDING

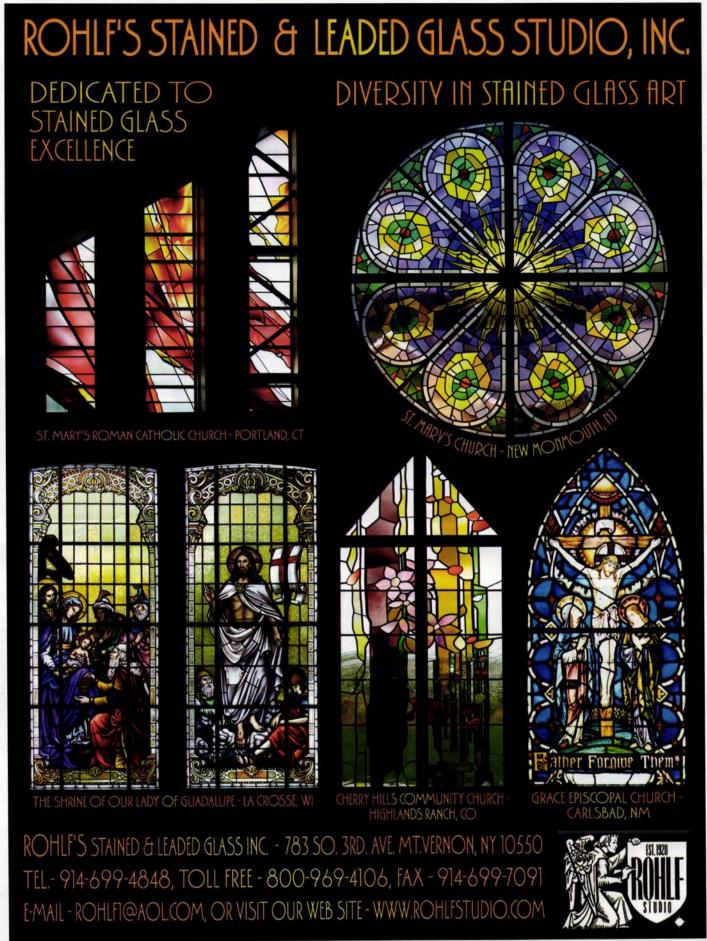
Traditional Building maintains the central website for historical products and services on the Internet – products used for restoration, renovation and new construction projects. There's more information and links to historical products than you'll find on any other site.

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www.brosamersbells.com

Decorators Supply Corp.

773-847-6300; Fax: 773-847-6357 www.decoratorssupply.com Chicago, IL 60609

Supplier of period architectural elements: ceiling medallions, mantels, cornices, columns & capitals; plaster of Paris, compo & wood; 14,000 patterns available.

Write in No. 210



These fluted columns from Decorators Supply were installed at Dean Gardens in Alpharetta, GA.

Fagan Design & Fabrication, Inc.

203-937-1874; Fax: 203-937-7321 www.fagancolumns.net West Haven, CT 06516

Manufacturer of columns & turnings: stain grades in any wood species; Classical orders; stock & custom; worldwide supplier.

Write in No. 8210



This fluted Roman Corinthian redwood column by Fagan Design has a Roman Doric base and aluminum plinth.

Felber Ornamental Plastering Corp.

800-392-6896; Fax: 610-275-6636 www.felber.net Norristown, PA 19404

Supplier of interior molded ornament: capitals, cornices, friezes, niches, keystones, rosettes, coffers, domes & medallions; custom mantels; plaster, gypsum & GRG; sculptors, model makers & casters on staff; stock & custom.

Write in No. 2890



This plaster capital from Felber Ornamental, measures 6 in. tall x 6 $^3/8$ in. wide and projects $^5/8$ in.

Goodwin Associates

585-248-3320, Fax: 585-387-0153 www.goodwinassociates.com Tampa, FL 33602

Supplier of architectural products: cornice moldings, columns, capitals, balustrades, door & window surrounds, ceiling medallions, niches, brackets, corbels, mantels & more; polyurethane, FRP & hardwood millwork.

Write in No. 806



This cutom-carved mahogany capital from Goodwin Associates tops a marble column.

Haddonstone (USA), Ltd.

718-948-4554; Fax: 710-948-4285 www.haddonstone.com Pueblo, CO 81001

Manufacturer of Classical stonework: columns, balustrades, benches, planters, urns, pavers, fountains, gazebos, interior ornament, mantels, statuary & more; cast limestone resembling Portland stone; more than 500 designs.

Write in No. 4020

Historical Arts & Casting, Inc.

800-225-1414; Fax: 801-280-2493 www.historicalarts.com West Jordan, UT 84088

Designer & custom fabricator of ornamental metalwork: doors, windows, hardware, stairs, balustrades, registers, fences, lighting, gutters, columns, weathervanes, planters & more; iron, bronze, aluminum & steel; restoration services.

Write in No. 1210

Imperial Productions & Distribution Inc.

800-399-7585, Fax: 416-264-6098 www.imperialdesign.on.ca Toronto, ON, Canada M1J 1A1

Supplier of architectural elements: columns & capitals in fiberglass, wood, polymer & plaster; load bearing, tapered, smooth & fluted & square tapered; wood & resin moldings & carvings; balusters, domes & medallions; tin ceilings.

Write in No. 1407

Jim Illingworth Millwork, LLC

877-390-2392; Fax: 315-232-3645 www.jimillingworthmillwork.com Adams, NY 13605

Custom builder of wood windows, doors & moldings: sashes or doors only or complete units; matching of existing moldings; crowns, bases, casings, trim, spindles, balusters & turnings; architectural, traditional & historical.

Write in No. 1696

Michael A. Dow - Woodcarver

207-363-7924; Fax: Same as phone www.archcarving.com York, ME 03909

Custom wood carver: any style & wood; architectural, ornamental, furniture, mantels & nautical carvings; molding, capitals & signage; wood turnings, model making & antique carving restoration.

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Michigan Ornamental Metals

201-945-4930; Fax: 201-945-4931 www.michiganornamental.com Ridgefield, NJ 07657

Custom fabricator of metal ornament: columns, capitals, rosettes, wreaths, cornices & ceilings; cupolas, domes, gutters, finials, leaders & leader boxes; stamped/pressed sheet metal; replications & historic reproductions.

Write in No. 9520

O.K. Foundry Co., Inc.

804-233-9674; Fax: 804-233-6240 www.okfoundrycompany.com Richmond, VA 23224

Custom fabricator of cast-iron elements: sculpture, columns & capitals, fencing, bollards, stanchions, mantels, fireplaces, chimneys & accessories.

Write in No. 1894

Pacific Columns

800-294-1098; Fax: 714-630-4549 www.pacificcolumns.com Brea, CA 92821

Supplier of architectural millwork & more: columns, balustrades, wainscoting, door & window trim, metal ceilings & walls, moldings, niches, brackets, medallions, wood carvings & louvers; variety of wood species; urethane millwork.

Write in No. 88

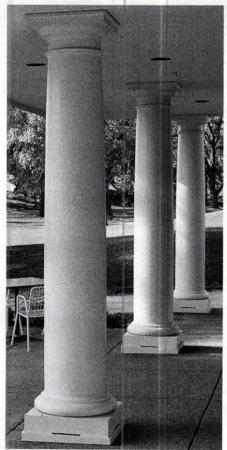


This roped maple column with a carved Temple of Winds capital was produced by Pacific Columns; the company also manufactures these columns in full rounds up to 18 in. in dia.

Pagliacco Turning & Milling

415-488-4333; Fax: 415-488-9372 www.pagliacco.com Woodacre, CA 94973

Manufacturer of columns & other turnings: solid & hollow turnings from 1 5/8 to 24 in. x 20 ft.; load- & non-load-bearing; balusters, handrails & newel posts; Classical styles; stock & custom turnings. Write in No. 7070



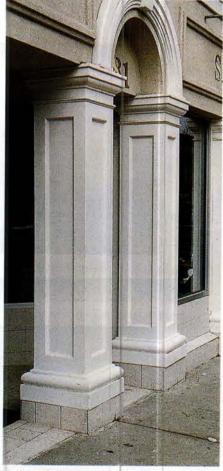
Pagliacco offers a variety of plain and fluted columns for both interior and exterior use.

Seal Reinforced Fiberglass, Inc.

631-842-2230; Fax: 631-842-2276 www.sealfiberglass.com Copiague, NY 11726

Supplier of FRP building components: cornices, cupolas, columns, balustrades, brackets, planters, urns, water features & garden ornament; full-service mold & tool fabricator; on-site molds.

Write in No. 4620



Seal Reinforced Fiberglass manufactured the fiberglass columns and trim for this storefront.

Steptoe & Wife Antiques Ltd.

800-461-0060; Fax: 416-780-1814 www.steptoewife.com Toronto, ON, Canada M6B 1V9

Fabricator of architectural metalwork: spiral & straight staircases, railings, capitals, gates & grilles; copper, iron, aluminum, steel, brass & bronze fabrication for renovation & restoration projects; tin ceilings in Canada only.

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Custom fabricator of millwork: monumental stairs, brackets, finials, spindles,

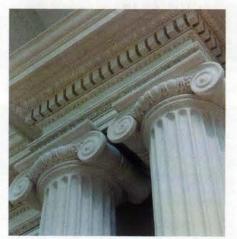
gazebo parts, custom turnings & screen doors; all wood species; interior & exterior; matches custom parts & workings from renderings; reproductions. Write in No. 7120

Towne House Restorations

718-497-9200; Fax: 718-497-3556 www.townehouserestorations.com Brooklyn, NY 11206

Manufacturer of molded ornament: columns, capitals, cornices, balustrades, sculpture & more; cast stone & GFRC; pattern restoration, color matching, field molds, field surveys, shop drawings & engineering; terra-cotta restoration.

Write in No. 545



Towne House Restorations custom fabricated the columns, bases, capitals and architraves in GRG to replicate travertine marble for the 19th-century galleries at the Metropolitan Museum of Art in NYC.

Traditional Cut Stone, Ltd.

416-652-8434; Fax: 905-673-8434 www.traditionalcutstone.com Mississauga, ON, Canada L5S 1S1

European master carvers: architectural ornamentation & monumental statuary; carved-stone mantels; restoration; historical reproduction in limestone, sandstone & marble; stone design with clay & plaster models; hand-drawn renderings.

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calendar of events

The Beaux Arts Alliance Lower Manhattan Walking Tour, June 21, 2008.

The Beaux Arts Alliance will conduct a walking tour of Lower Manhattan in New York City. The tour will visit the former United States Custom House, the New York Stock Exchange, the old Merchant's Exchange and more. For information call 212-639-9120.

SGAA Annual Conference, June 27-29, 2008. The Stained Glass Association of America will celebrate its 99th annual conference, which will focus on West Coast glass, at the Marriott Oakland City Center in Oakland, CA. The schedule includes demonstrations, lectures, panel discussions and an art-glass tour, plus pre-conference workshops, the Dorothy L. Maddy Silent Auction, "The Bay Area Exhibition," and the SGAA Annual Raffle. For conference updates, visit www.stainedglass.org.

ICA Classical Architecture & Landscape Painting in Italy, June 15-30, 2008.

The Institute of Classical Architecture & Classical America with its Grand Central Academy of Art will lead a two week residency program in Subiaco, Italy. The program, which includes lectures, tours and workshops, will focus on classical architecture and landscape painting of Subiaco; a hill town between the ancient sites of Tivoli and Alba Fucens. For more information visit www.classicist.org.

12th Annual International Preservation Trades Workshop (IPTW), July 18-20, 2008. PTN will hold its annual workshop in Barre, VT, at the Jones Brothers Company granite shed, home of the Vermont Granite Museum and the Stone Arts School. The workshop features demonstrations, presentations, hands-on sessions and the Preservation Trades Fair, plus the presentation of the 2008 Askins Achievement Award. For more information call 866-853-9335, e-mail info@ptn.org or go to www.iptw.org.

Traditional Building Exhibition & Conference, September 18-20, 2008. The nation's largest event dedicated to historic restoration, renovation and historically inspired new construction will be held at the Navy Pier Festival Hall in Chicago, IL. The conference includes sessions with professional learning units available through the AIA, ASLA, ASID, IIDA, AIC and the APA. For details on programs and exhibiting, go to www.traditionalbuildingshow.com.

ASLA Annual Meting & Expo. October 3-7, 2008. The American Society of Landscape Architects will hold its annual meeting at the Philadelphia Convention Center in Philadelphia, PA. The theme of this year's conference is "Green Infrastructure, Linking Landscapes & Communities." For more information, go to www.asla.org.

APT 40th Anniversary Conference, October 13-17, 2008.

The Association for Preservation Technology International will celebrate its 40th anniversary conference at the Hilton Montreal Bonaventure in Montreal, Quebec, Canada. The theme this year is Interdisciplinary Collaboration in Heritage Conservation; with sub-themes, Sustainable Heritage Conservation and Conservation Technology and Philosophy. The conference will focus on approaches used in heritage preservation over the last four decades. For conference updates, visit www.apti.org.



APT Montréal 80

National Green Builders Products Expo, October 15-16, 2008. The National Green Builders Products Expo will be held at the Las Vegas Convention Center in Las Vegas, NV. The expo is a trade-to-trade event focusing exclusively

on green building products and services related to initial building, remodeling, renovation of buildings and more. For more information, visit www.ngbpe.com.

National Preservation Annual Conference, October 21-25, 2008. The National Trust for Historic Preservation will hold its annual conference at the Tulsa Convention Center in Tulsa, OK. The theme, "Preservation in Progress," will highlight the city's Art Deco architecture, Native American influences and its changing environment. For details and registration, visit www.nthpconference.org.

24th Annual Build Boston Convention and Tradeshow, November 18-20, 2008. The 24th annual Build Boston convention and tradeshow will be held at the Seaport World Trade Center in Boston, MA. The event features exhibits, workshops and tours for building, design and management professionals. For event updates, visit www.buildboston.com.

Designing the Parks Conference, December 9-11, 2008. The second part of the Designing the Parks conference will be held in San Francisco, CA. The conference features panels, presentations, case studies and hands-on sessions dealing with contemporary issues and challenges in park planning, design and management of regional, state and national parks. For conference updates and registration visit www.designingtheparks.com.

National Building Museum Programs & Exhibits. The National Building Museum in Washington, DC, offers a series of exhibits and programs throughout the year on topics dealing with architectural design and building. Many of the programs qualify for AIA continuing-education units. "Designing the World of Tomorrow: America's World's Fairs of the 1930s," will run from now to July 4, 2009, and focus on the outburst of fair activity in America during the Depression era. Visit www.nbm.org for details.

Wood-Carving Workshops. Classically trained master wood-carver Dimitrios Klitsas conducts classes in wood carving at his studio in Hampden, MA, for novices as well as professionals looking to take their skills to the highest level. Classes are available for both group and individual instruction. For more details, go to www.klitsas.com.

Woodworking Classes. The North Bennet Street School holds woodworking classes year round in Boston, MA. Class size is limited to 10 to 14 people. To register and pay online, visit www.nbss.org/workshops/schedule.asp or contact workshop program director Janet A. Collins at workshop@nbss.org or 617-227-9292.

Workshops on Historical Lime Mortars. A comprehensive two-day course details the why and how of using lime putty mortars for re-pointing historic masonry. The workshop combines lectures and laboratory work with handson lime slaking and re-pointing on all different types of historic masonry walls. For course schedules and registration details, call 773–286–2100 or go to www.usheritage.com/events.htm.

Preservation Education Programs. Throughout the year, the Preservation Education Institute, a program of Vermont-based Historic Windsor, Inc., offers workshops on various preservation skills, technology and practice for building and design professionals, property owners and others. This year, courses include wood carving, plaster repair, window repair and timber-frame evaluation and repair. For a complete listing of current programs, go to www.preservationworks.org or contact Judy Hayward at 802-674-6752.

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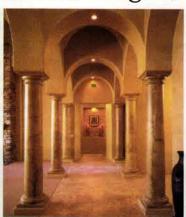
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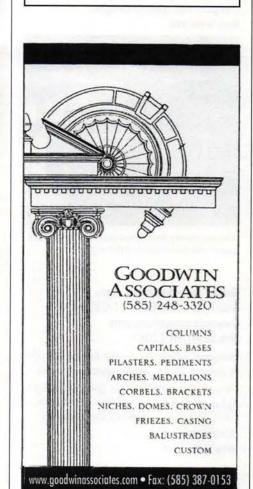
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Glass House, LLC reconstructed this greenhouse that has been converted into an architectural studio; it features mahogany framing, ganged roof and side vents for ventilation, refitted with the actual chain pulley operators with copper exterior roof cappings.

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Manufacturer of Classical stonework: columns, balustrades, benches, planters, urns, pavers, fountains, gazebos, interior ornament, mantels, statuary & more; cast limestone resembling Portland stone; more than 500 designs.

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McLean Metal Works

409-762-7202; Fax: 409-762-2855 http:www.mcleanmetalworks.com Galveston, TX 77550

Custom fabricator of metalwork: fences, railings, sculpture, canopies, kiosks & pavilions; historic restoration.

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Mueller Ornamental Iron Works, Inc.

847-758-9941; Fax: 847-758-9945 www.ornamentaliron.net Elk Grove Village, IL 60007

Designer & fabricator of ornamental metalwork: doors, fences, gates, gazebos, cresting & stairs; cast iron, forged steel, stainless steel, aluminum & bronze; restoration services; custom work.

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Oak Leaf Conservatories of York

800-360-6283; Fax: 404-250-6283 www.oakleafconservatories.com Atlanta, GA 30327

Designer, custom fabricator & installer of authentic British conservatories, orangeries, garden rooms, pool/spa enclosures & glass domes: handcrafted in England; mortise-&-tenon construction, premium-grade mahogany & double glazing.

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Manufacturer of pre-engineered, bolted tubular-steel gazebos, shelters, pavilions & enclosed structures: for parks, gardens, streetscapes, benches, courtyards & recreational facilities.

Write in No. 984

Renaissance Conservatories

800-882-4657; Fax: 717-661-7727 www.renaissanceconservatories.com Leola, PA 17540

Designer, manufacturer & installer of conservatories, greenhouses, garden follies, pool enclosures, specialty skylights, roof lanterns, domes & garden windows: Classical designs; handcrafted mahogany components; custom designs.

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This conservatory from Renaissance Conservatories is topped with a traditionally styled roof lantern.

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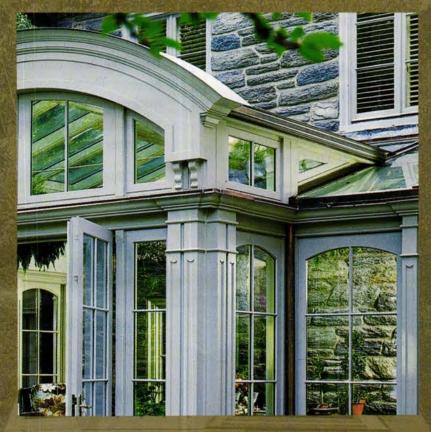
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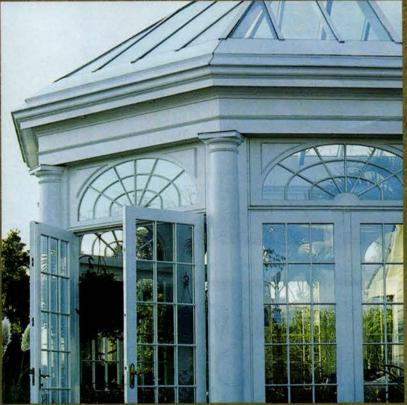
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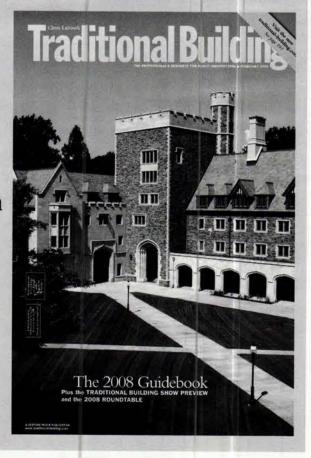
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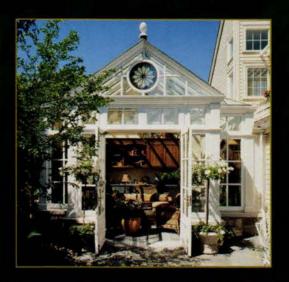




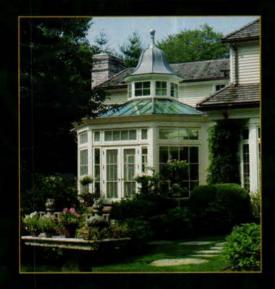
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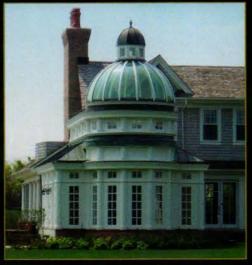












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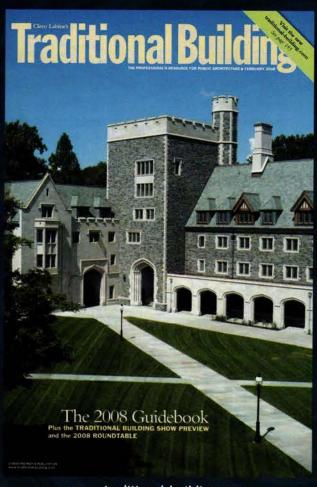
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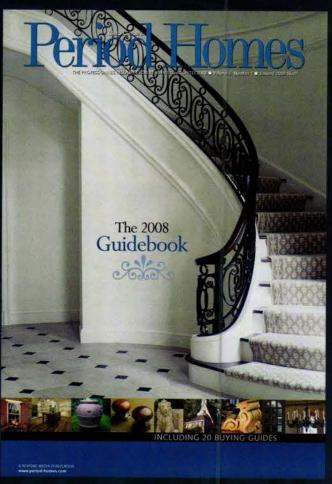


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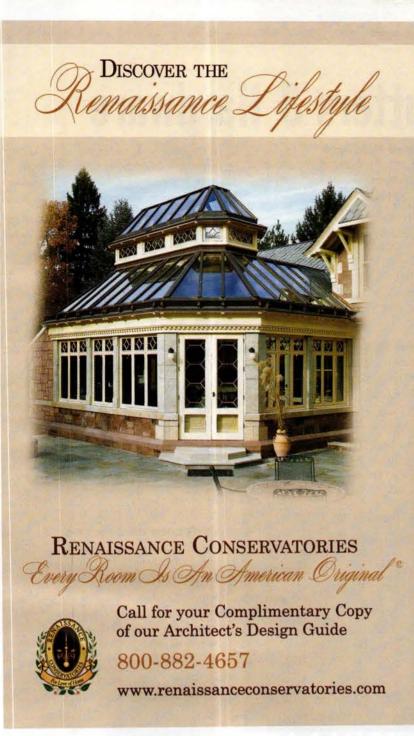
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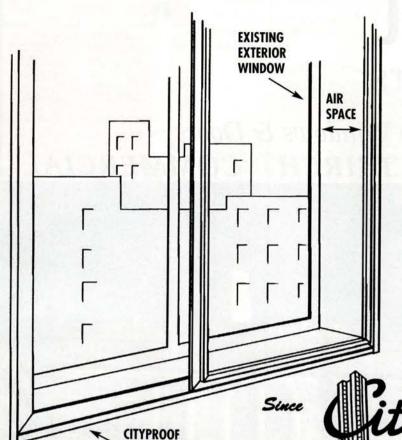
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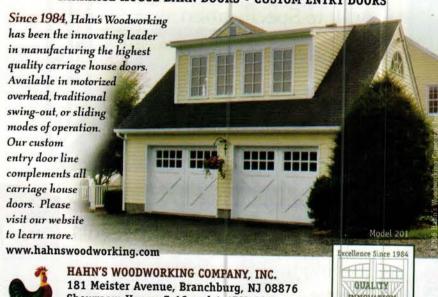
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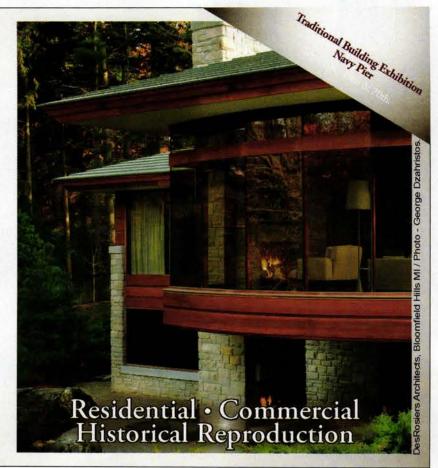
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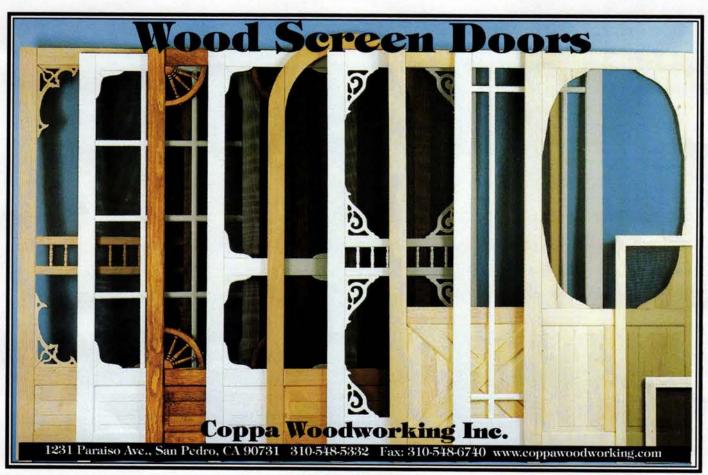
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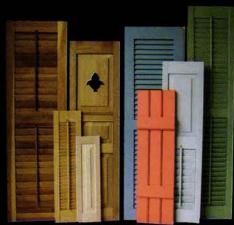
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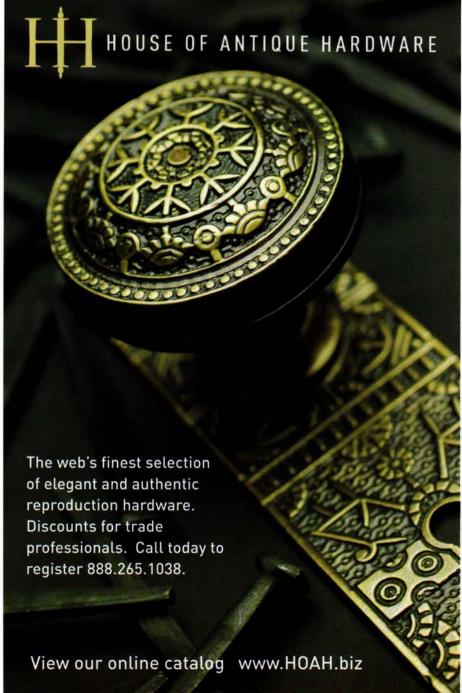


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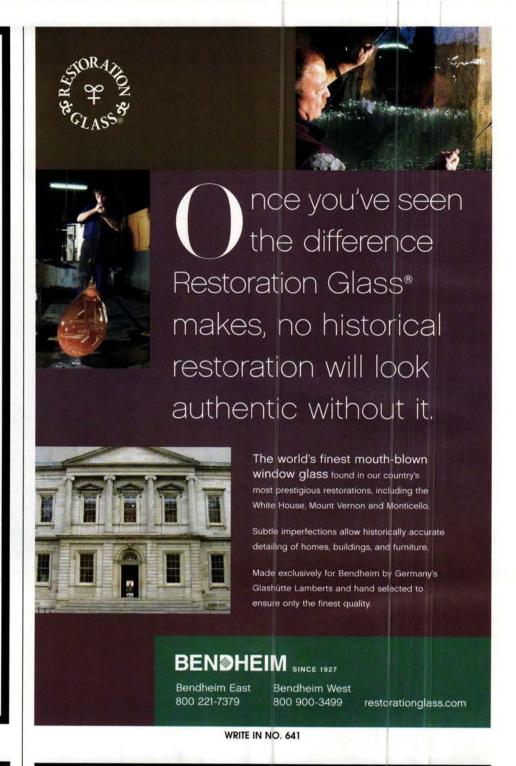


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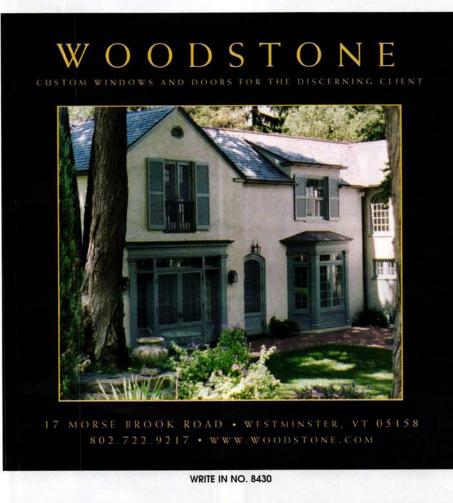
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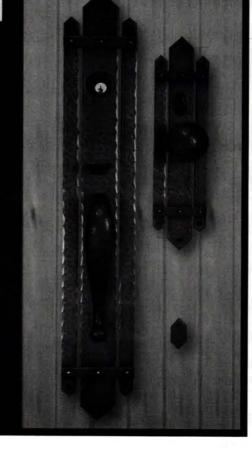
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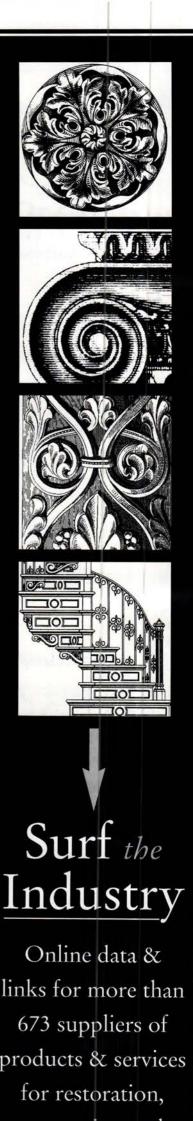
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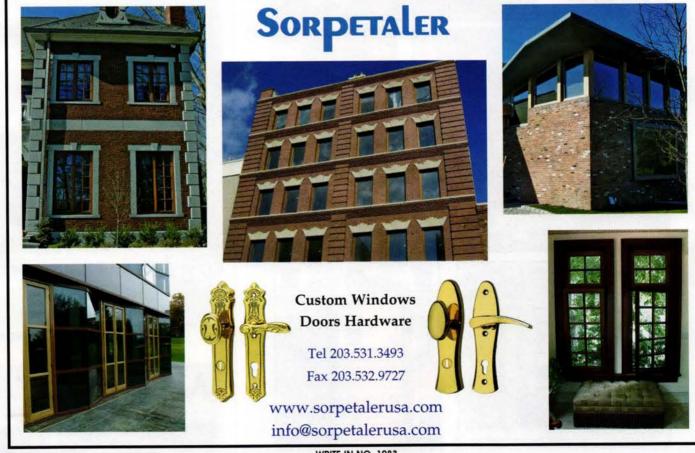
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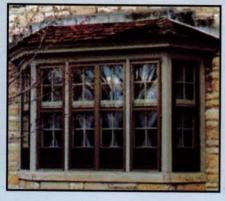
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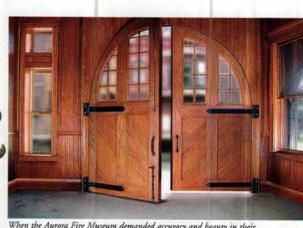
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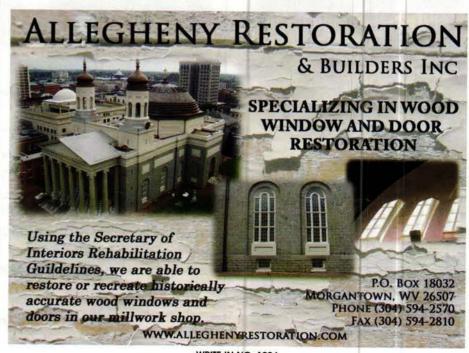
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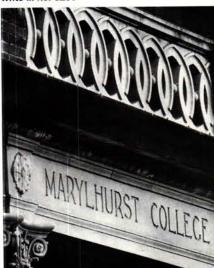
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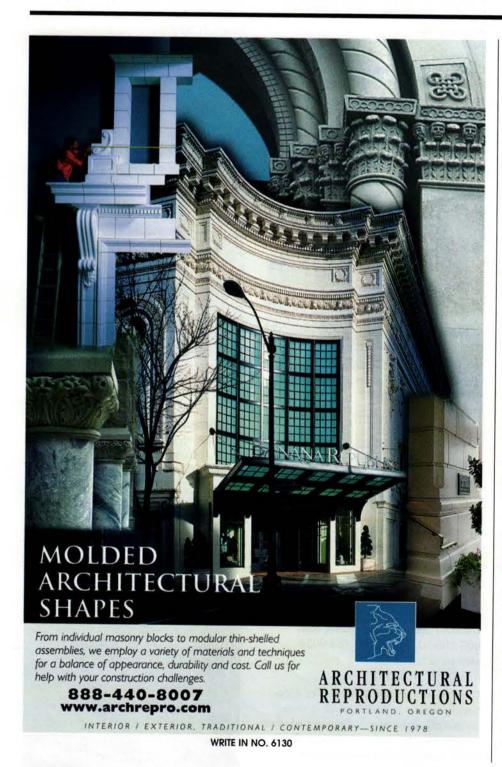
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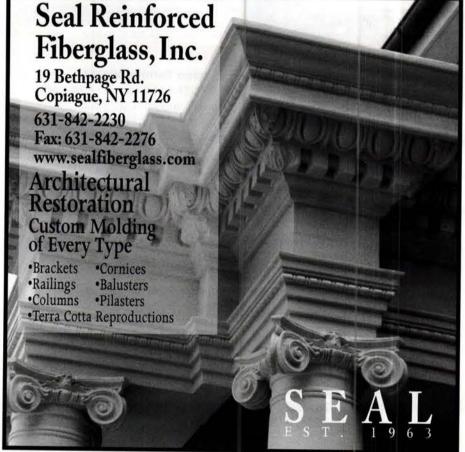
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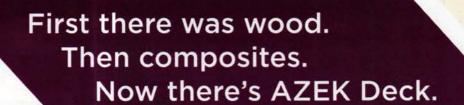
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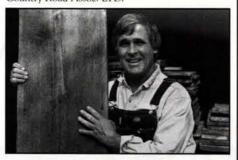
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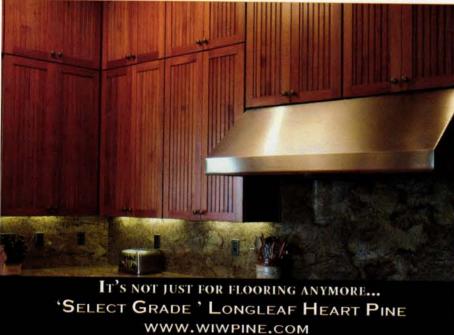
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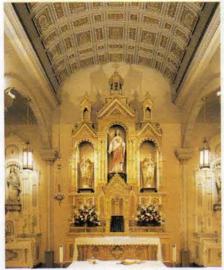
Canning Studios executed the gilded stenciling in the Senate Chambers at the Connecticut State Capitol.

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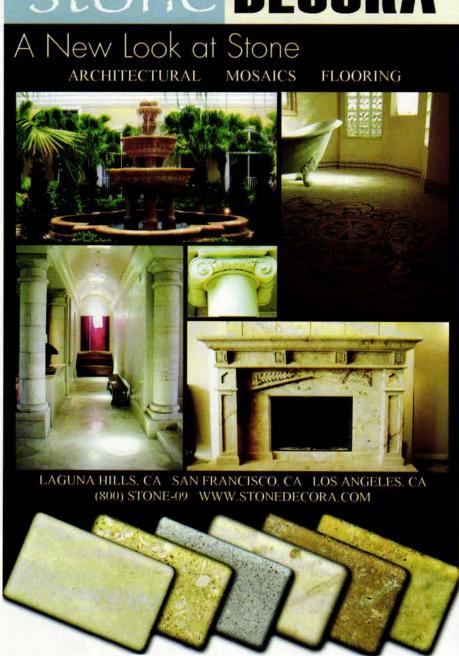
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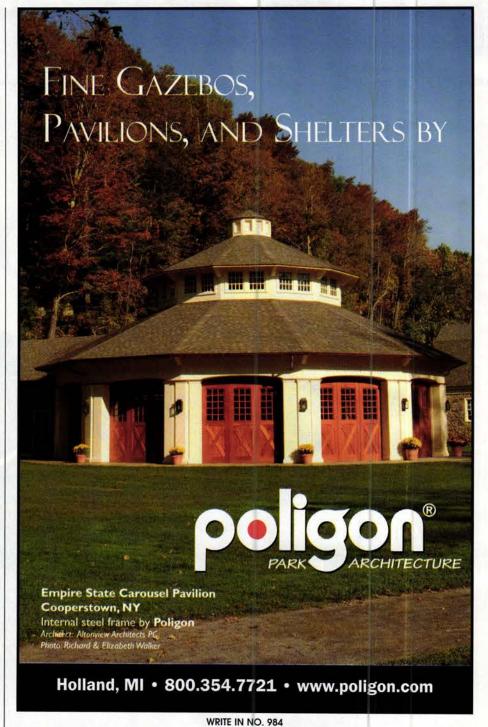
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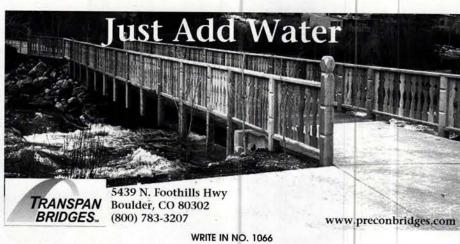
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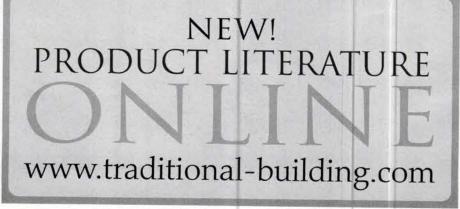




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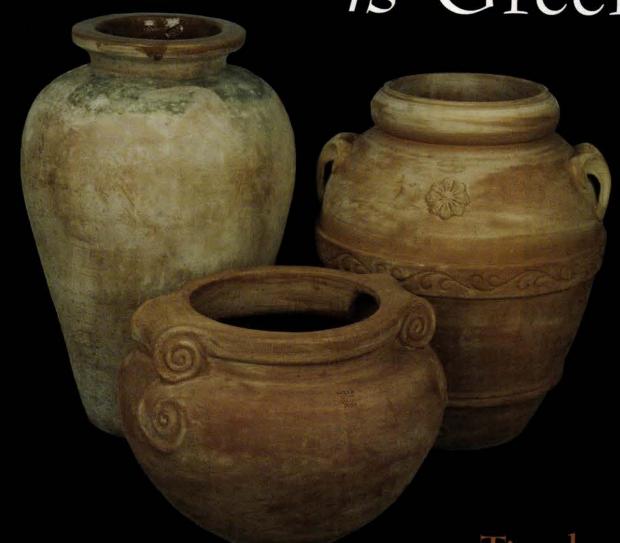






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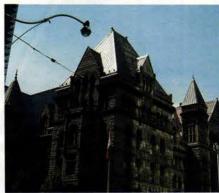
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glass domes, pool/spa enclosures, sunrooms & canopies; all aluminum & aluminum/wood.

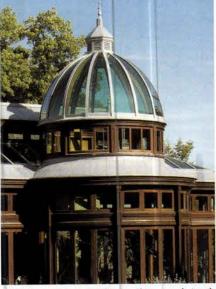
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Manufacturer of handcrafted conservatories, greenhouses, gazebos, roof lanterns, cupolas & pool enclosures: Honduras mahogany; custom designs; fully engineered with stamped shop drawings; storefronts.

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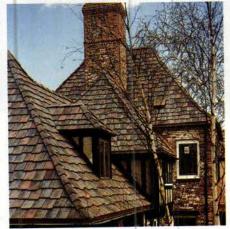
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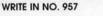
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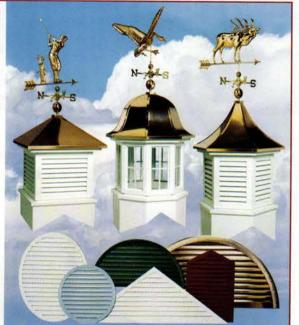
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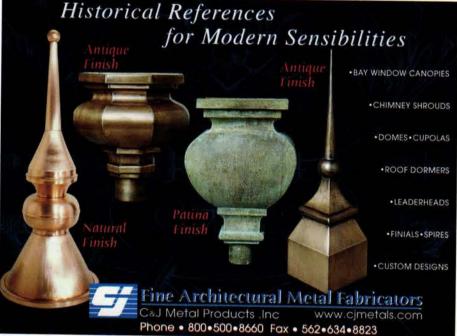
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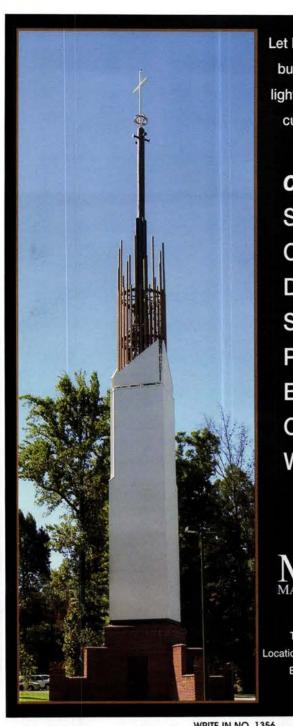
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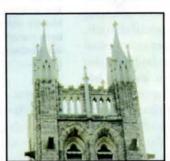
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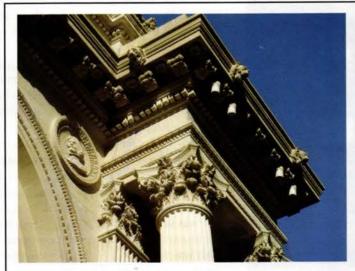
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New Life on Hastings Street

Hand-carved stonework revitalizes Vancouver's historic Flack Block.

By Nicole V. Gagné

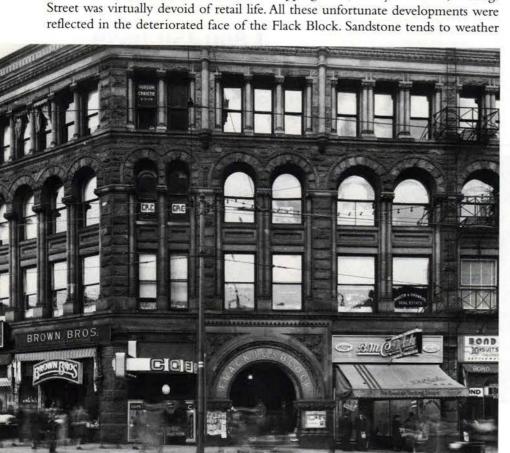
n the late 1890s, the Canadian city of Vancouver, British Columbia, was transformed by the frantic activity of the Klondike gold rush. Settled only in the 1860s, Vancouver was conveniently located north of Seattle, WA, and soon became a valuable locus for the supplies and transportation arrangements needed by prospectors who were headed for the Yukon. The expansion of mercantile trade vitalized Vancouver, and building construction boomed in these years.

One of the most prominent commercial locales in turn-of-the-century Vancouver was Hastings Street, and one of its largest and most noteworthy commercial structures was the Flack Block. Named after Thomas Flack – one of the lucky ones who really did build up a fortune in the gold fields of Alaska – the Flack Block was designed in 1898 and constructed in 1899-1900. Its architect, William Blackmore (1842-1904), ranked among Vancouver's most respected and prolific practitioners of the era.

Alas, much of his work was razed in 20th-century redevelopments throughout the city. Today, one of the most significant of Blackmore's standing commissions is the Flack Block – envisioned by the architect as an impressive structure in the Romanesque Revival commercial style, with a rough-dressed stone facade, round-arched windows, and twinned columns. Its crowning glory was a massive 20-ft. sandstone arch at its entry, emblazoned with the building's name and number. Based on heavy twin pediments, the arch was further distinguished with a pair of relief-sculpture griffins at its outer corners, gargoyle faces in the pediments, and other intricate and detailed carved-stone ornamentation.

A Blackmore building in this style summed up the qualities of corporate might and stability, which were admired by the city's late-Victorian population. It helped define the character of Vancouver's profitable, forward-looking commercial districts, Gastown and Victory Square, and promoted further commercial development. Overlooking Victory Square, the building also welcomed an array of professional tenants, from lawyers and brokers to doctors and dentists, as well as several ground-floor retail tenants.

Hastings Street was prized as Vancouver's primary commercial and shopping street until the first half of the 20th century, when the entire area began falling on hard times. The 1950s, besides writing finis to the district's streetcar service, also ushered in the growth of new suburban shopping malls, and by the 1990s, Hastings Street was virtually devoid of retail life. All these unfortunate developments were reflected in the deteriorated face of the Flack Block. Sandstone tends to weather



This historic photograph of the Flack Block gives some sense of the impact of its richly ornate carved-stone entry. (No, there are no ghosts in the photo; during the long exposure time needed for the picture, only faint impressions of the quicker-moving passersby were captured.) From this and other period photos, Architectural Stone Masonry was able to re-create the entry with remarkable fidelity. The district became a successful retail hub in Vancouver, thanks in part to structures such as the Flack Block. The demise of this public-transportation in the 1950s – plus the rise of suburban malls – marked the end of the district as a shopper's paradise. Photo: courtesy of Architectural Stone Masonry/Vancouver Public Library



In April of 2008, the carved-stone phase of the restoration of Vancouver's Flack Block was successfully completed. The artisans of Architectural Stone Masonry hand carved approximately 80,000 lbs. of limestone to re-create this historic entry, an arresting display of fierce griffins, sage faces and elaborate ornamentation. The original entry had been carved in sandstone and first saw the light of day with the building's construction in 1899-1900; but the material weathered badly and the entire entry was torn off the facade more than half a century ago. All photos: courtesy of Architectural Stone Masonry

badly, and the building's once-commanding facade was showing its age by the late-20th century; worse, its mighty sculpted archway had been completely removed long before, leaving behind an unimpressive blank. The rest of the ground level had turned into a patchwork of inappropriate windows, doors, stucco cladding, etc., as it was continually remodeled into the ground-floor storefronts of enterprises that ultimately failed.

Now the property of a new developer, the facade of the Flack Block is finally experiencing the careful and loving restoration it deserves, under the supervision of Vancouver's Acton Ostry Architects, Inc., with Donald Luxton & Associates, also of Vancouver, as heritage consultants. Features from later periods have been removed, and surviving original elements preserved and restored. The entire structure also received a seismic upgrade and new building systems, and more office space was incorporated with the addition of a fifth floor (which follows the contour of the building and has a 9-ft. setback so as not to compromise the original facade). But just as the jewel in the Flack Block's crown was its majestic archway, so too the outstanding feature of this massive restoration effort is the re-creation of the original carved stonework.

Atlantis Rausch Granite & Marble Installations, Ltd., of Richmond, BC, were brought in as masonry-restoration contractors on the project, and when they saw the extent of the work that needed to be done, they turned to Architectural Stone Masonry (ASM) of Richmond and Abbotsford, BC, a firm of stone carvers established in England during the 1970s.

ASM founder Tony Rogac recalls the condition of the Flack Block when they first started working on it: "The sandstone had weathered quite dramatically, a lot of the cornices had to be replaced, and the sandstone ashlar, which is split-face, had to be dressed back. It was a corner building, and being near the water, it had also suffered quite a bit from wind erosion. And of course, the arch was no longer there – it was structural and I think it had deteriorated to such a point that it probably became unsafe, so they took it down and replaced it by putting an I-beam in there. This was years ago, not the best time for restoration, and it was also in a more rundown part of town. That area is now being revitalized, but then there wouldn't have been the urgency to put such an expensive piece of work back in there."

Replacing the sandstone features of the Flack Block with the same materials was no longer an option. The Newcastle Island quarry that had originally supplied sandstone for the building had been tapped out, so a substitute material was selected. "All the new work that was put in is actually Indiana grey limestone," Rogac says. "The Indiana grey is actually quite a good match for the existing sandstone, and should weather better."

Of course, coming up with an acceptable match to the building's original stonework becomes a lot tougher when no model exists. The solution lay in historic photos of the Flack Block in its glory days, but even this source had its limitations, according to Rogac. "Although they were small, the photographs we had



Artisans in the Canadian workshop of Architectural Stone Masonry work on aspects of the recreated entry for Vancouver's Flack Block. "It was all done by hand," ASM founder Tony Rogac says. "No machine touched any of that stone." The detail shows the careful hammer-and-chisel technique needed to produce an intricate, finely detailed ornamental piece.

were of such a high resolution that we were able to blow them up to quite an extent. But a lot of the details of the fine carving, we had to improvise."

All those minute but essential details required a fair degree of improvising, which significantly complicated ASM's initial phase of work on the project. "The drawings, getting everything to fit exactly as was originally intended, I think was the most difficult aspect of the work," Rogac says. "Once they were done we were able to proceed, but months of work went into the drawings. Previously, there was an architect's set of drawings, and we had a semblance of some drawings from the architect, but we really had to start afresh from the photographs, along with some of the details given to us by the current architect who was responsible for the building. The task of getting all that together, with the anchoring details too, that was hard; but once we got it all worked out, we could start to produce it."

Then came the epic job of hand carving some 80,000 lbs. of stone. "The main emphasis of the carving was the replacement of the two pediments and the main archway. It was all done by hand," Rogac says. "No machine touched any of that stone." Although himself a master architectural stone carver, for once Rogac was able to put down his tools with this job. "I was more in a supervisory capacity, basically overseeing the project," he says. Slowly and surely the long-lost details were re-created: Two large and complimentary relief-carvings of snarling griffins took shape, and pairs of sage faces once again peered out from the entry's heavily ornamented pediments.





The original 20-ft. arch for the Flack Block bearing the building's name was re-created in the workshop of Architectural Stone Masonry. The new arch, like all the rebuilt elements, was sculpted in Indiana grey limestone because the original sandstone quarry that had supplied the first arch and its carvings was exhausted years before. Divided into 15 sections and adorned with a lower ornamental arc, the arch will again become a defining feature of its Vancouver streetscape once it's set in place.

Once the sculptures were completed, the installation of ASM's work was turned over to others – an atypical aspect of the project for Rogac and his colleagues. "We've done all our previous installations, but not on this building," he says. "Its original construction had been more structural, but our new installation is clad around a steel frame to make it earthquake-proof, and the anchoring details were actually more difficult. People had to go through, cladding every piece to a steel member, and so the installation was actually done by Atlantis Rausch; ASM were the carvers, and we were also there in a sort of supervisory capacity, to ensure that things went as intended. But there were really no surprises, because all the elements had been totally worked out before we got into it. And the general contractor, Haebler Construction [of Vancouver, BC], was quite generous with their time on this. We were working within a certain time schedule, but there was no pressure on us."

The carved-stone phase of the restoration of the Flack Block's facade was successfully completed in April 2008. The entry is once more charged with life, a display of fantastic animals, unexpected faces and lush ornamentation. "We are devoted to building enduring show pieces that are sources of pride," Rogac says. "The end product of any of our projects involves far more than what can be seen with the eye."

Had its entry not been restored, the Flack Block would never be able to reassert itself in the renewed commercial life of Hastings Street, and enjoy again the role it had once played in Vancouver street life. It's a legacy that truly does involve far more than what can be seen with the eye. TB



Above: The building's seismic upgrade required that the new ornamental stonework be clad around a steel frame, which entailed some complex anchoring details. As a result, the re-created entry for the Flack Block was installed not by ASM's own team but by the masonry-restoration contracting firm of Atlantis Rausch Granite & Marble Installations, Ltd.

Left: Two large, complementary, hand-carved reliefs of griffins are about to spring back into life on the restored entry of Vancouver's Flack Block. This photo gives an idea of the weight and size of these striking sculptures, which had to be elaborately anchored to the entry's new and upgraded framing.

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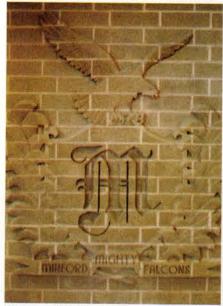
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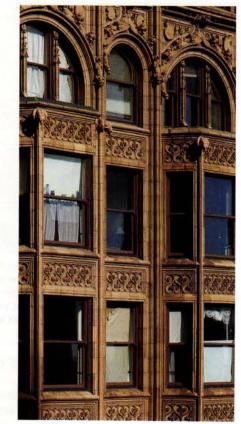
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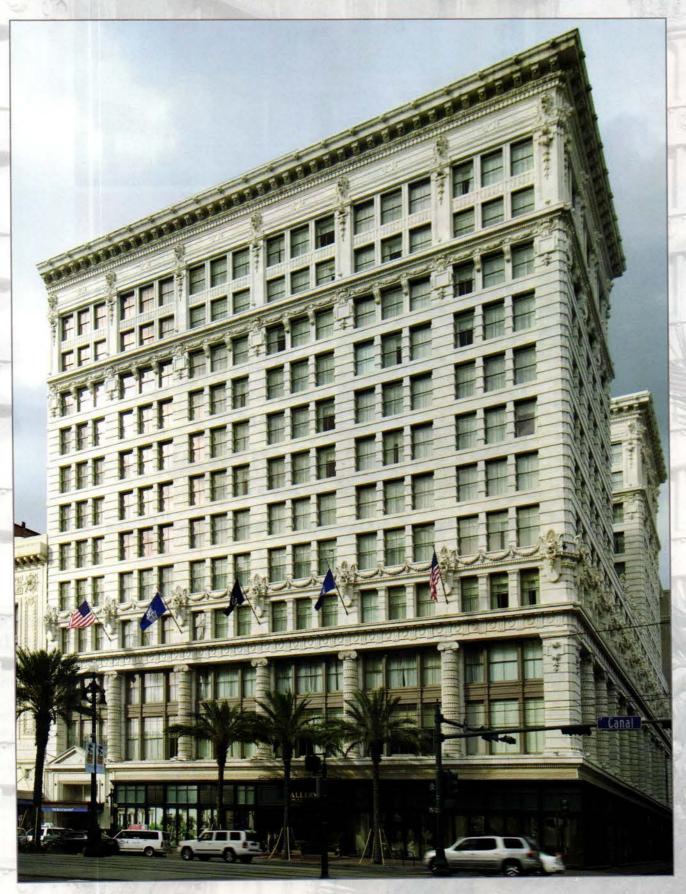
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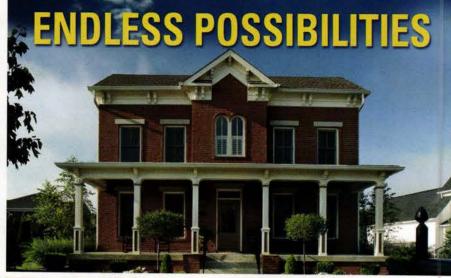
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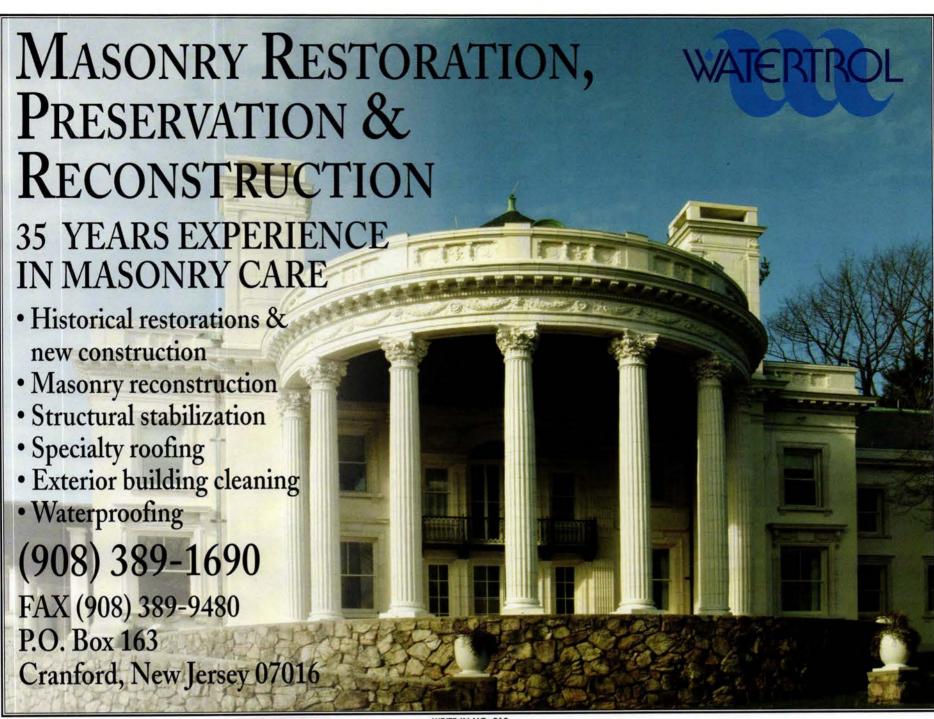
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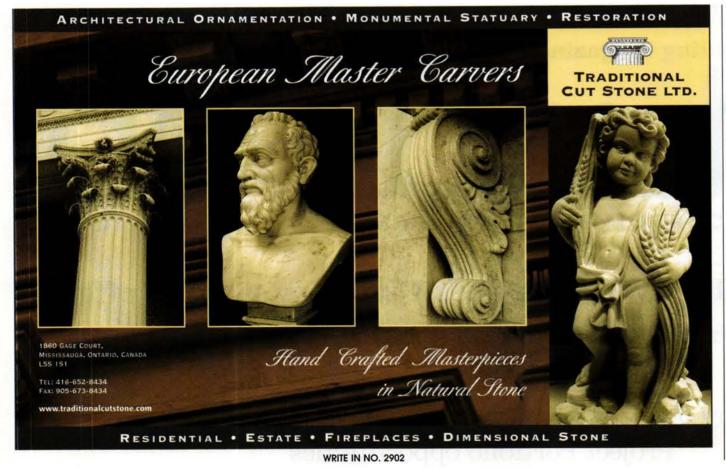
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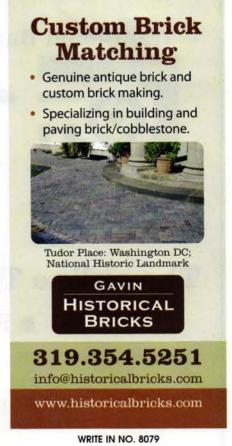
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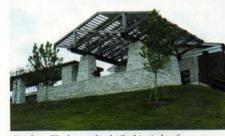
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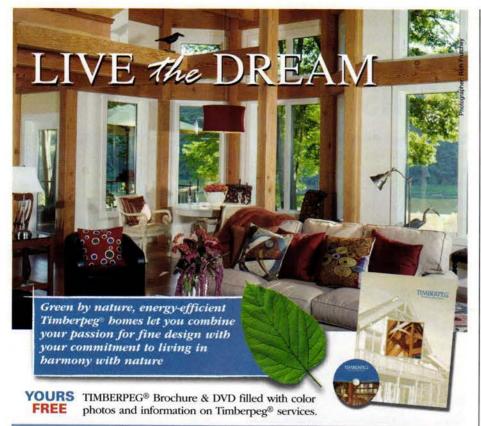
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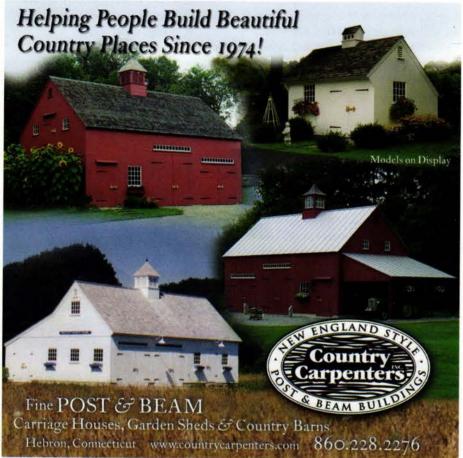
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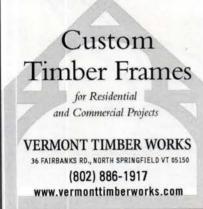
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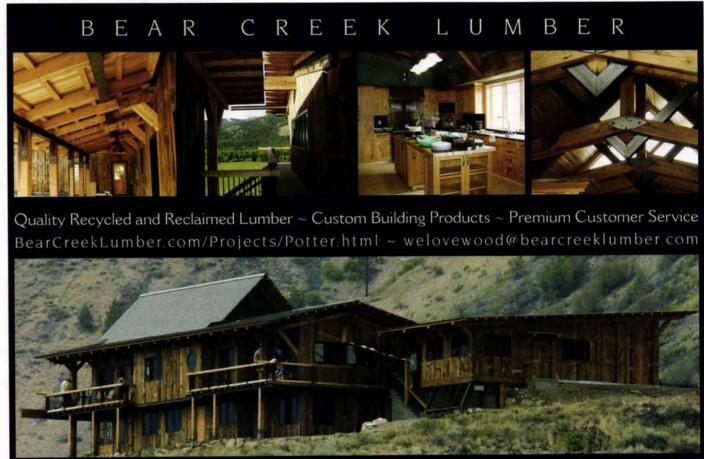
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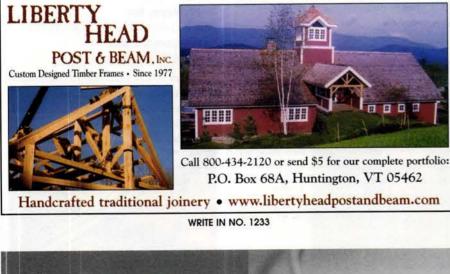
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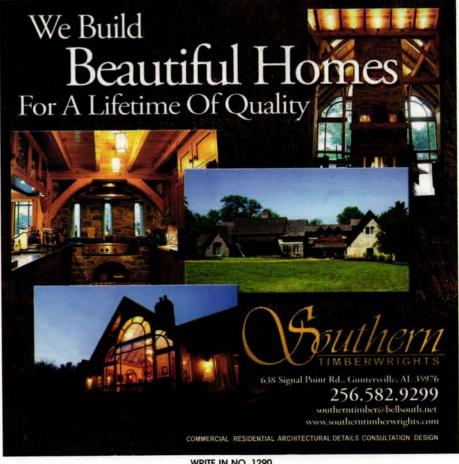
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800-597-7191; Fax: 509-997-2040 www.bearcreeklumber.com Winthrop, WA 98862

Supplier of high-quality clear-grade lumber siding, decking, paneling, ceiling, timbers & post & beam: sustainable & recycled; western red cedar, Port Orford cedar, Douglas fir, ipe, cypress, pine, fir, hemlock, jatoba & more.

Write in No. 521

Boston Turning Works

617-924-4747; Fax: 617-924-4949 www.bostonturningworks.com Watertown, MA 02172

Manufacturer of wooden finials for fences & exterior use: custom-turned balusters, posts, newels & columns.

Write in No. 1936



This carving was crafted by Bear Creek Lumber in

Country Road Associates, Ltd.

www.countryroadassociates.com Millbrook, NY 12545

Supplier of reclaimed wood: wide board & random width; chestnut, maple, white oak, white pine, heart pine, cherry, elm & walnut; distributor of reclaimed barn siding, hand-hewn beams, paneling & cabinetry.

Write in No. 7480 for flooring; 1416 for cabinetry

Craftsman Lumber Co.

978-448-5621; Fax: 978-448-2754 www.craftsmanlumber.com Groton, MA 01450

Manufacturer of wood flooring & custom millwork: wide-plank flooring & clapboards; eastern white pine, red pine, red oak & other native hardwoods; all drying & milling done on premises.

Write in No. 4320

Dimitrios Klitsas - Fine Wood Sculptor

413-566-5301; Fax: 413-566-5307 www.klitsas.com Hampden, MA 01036

Wood carver: capitals, newel posts, furniture (all periods), fireplace mantels, stairs, moldings & other specialty carvings; variety of wood species.

Write in No. 7380



Dimitrios Klitsas - Fine Wood Sculptor carves architectural elements in wood.

Fagan Design & Fabrication, Inc.

203-937-1874; Fax: 203-937-7321 www.fagancolumns.net West Haven, CT 06516

Manufacturer of columns & turnings: stain grades in any wood species; Classical orders; stock & custom; worldwide supplier.

Write in No. 8210

Goddard Mfg. Co.

800-536-4341; Fax: 785-689-4303 www.spiral-staircases.com Logan, KS 67646

Custom fabricator of stairs: spiral & curved; balusters & newels; all wood (mainly pine & oak), steel/wood combinations & all steel; wholesale prices.



Goddard fabricates custom spiral staircases in oak, pine and other wood species.

Goodwin Associates

585-248-3320; Fax: 585-387-0153 www.goodwinassociates.com Tampa, FL 33602

Supplier of architectural products: cornice moldings, columns, capitals, balustrades, door & window surrounds, ceiling medallions, niches, brackets, corbels, mantels & more; polyurethane, FRP & hardwood millwork.

Write in No. 806

Historic Doors

610-756-6187; Fax: 610-756-6171 www.historicdoors.com Kempton, PA 19529

Custom fabricator of wood windows & doors: casing; circular & crown moldings; complete entryways; wood storefronts; restoration & period-style construction.

Write in No. 3570



Historic Doors offers circular crown moldings in a variety of styles and woods.

Jim Illingworth Millwork, LLC

877-390-2392; Fax: 315-232-3645 www.jimillingworthmillwork.com Adams, NY 13605

Custom builder of wood windows, doors & moldings: sashes or doors only or complete units; matching of existing moldings; crowns, bases, casings, trim, spindles, balusters & turnings; architectural, traditional & historical.

Write in No. 1696

Kronenberger & Sons Restoration

860-347-4600; Fax: 860-343-0309 www.kronenbergersons.com Middletown, CT 06457

Contractor for interior & exterior restoration: all types of finishes; post-&beam construction; windows, molding & roofing; masonry & wood; museums, churches, town halls, libraries, barns, period homes & outbuildings.

Write in No. 536



Michael A. Dow - Woodcarver 207-363-7924; Fax: Same as phone

www.archcarving.com York, ME 03909

Custom wood carver: any style & wood; architectural, ornamental, furniture, mantels & nautical carvings; molding, capitals & signage; wood turnings, model making & antique carving restoration.

Call for more information.

Pacific Columns

800-294-1098; Fax: 714-630-4549 www.pacificcolumns.com Brea, CA 92821

Supplier of architectural millwork & more: columns, balustrades, wainscoting, door & window trim, metal ceilings & walls, moldings, niches, brackets, medallions, wood carvings & louvers; variety of wood species; urethane millwork.

Write in No. 88

Pagliacco Turning & Milling

415-488-4333; Fax: 415-488-9372 www.pagliacco.com Woodacre, CA 94973

Manufacturer of columns & other turnings: solid & hollow turnings from 15/8 to 24 in. x 20 ft.; load- & non-loadbearing; balusters, handrails & newel posts; Classical styles; stock & custom turnings. Write in No. 7070

Stair Specialist, Inc.

269-964-2351; Fax: 269-964-4824 www.stairspecialistinc.com Battle Creek, MI 49015

Supplier of stairs & stair parts: straight, curved, monumental, circular staircases, large & small radii & ellipses; balusters, newel posts & tread brackets; oak, cherry, walnut, maple, mahogany, Brazilian cherry & heart pine.

Call for more information.



Stair Specialist used walnut for the railings, stair treads, newel posts and tread brackets in this curved, splayed, freestanding staircase.

Stairways, Inc.

800-231-0793; Fax: 713-680-2571 www.stairwaysinc.com Houston, TX 77018

Designer & manufacturer of Victorianstyle spiral & straight stairs, stair parts, supplies & kits: steel, brass, stainless steel, wood & more.

Write in No. 4870



This staircase from Stairways features oak treads.



The Wood Factory produces custom Victorian-style woodwork in many species.

The Wood Factory

936-825-7233; Fax: 936-825-1791 Navasota, TX 77868

Custom fabricator of millwork: monumental stairs, brackets, finials, spindles, gazebo parts, custom turnings & screen doors; all wood species; interior & exterior; matches custom parts & workings from renderings; reproductions.

Write in No. 7120

Vintage Woodworks

903-356-2158; Fax: 903-356-3023 www.vintagewoodworks.com Quinlan, TX 75474

Manufacturer & supplier of Victorian millwork: wood porch parts, turned

posts, turned & sawn balusters, railings, brackets, corbels, custom-length spandrels, screen/storm doors, mantels, wood shingles & more; cellular PVC profiles. Write in No. 1061

Weston Millwork Co.

816-640-5555; Fax: 816-386-5555 www.westonmillwork.com Weston, MO 64098

Custom fabricator of wood doors & windows: sash & door-frame components & complete units; storms & screens; historical reproductions & exact replicas; millwork; cornice moldings.

Write in No. 1316

Wood Window Workshop

800-724-3081; Fax: 315-733-0933 www.woodwindowworkshop.com Utica, NY 13501

Custom fabricator of wood windows, doors, storms & screens: any size, shape & species; full mortise-&-tenon construction, true-divided lite, hard-to-find hardware & restoration & insulated glass; millwork, moldings & paneling; factory finishes; reproductions.

Write in No. 9640



Traditional-Building.com



Michael A. Dow Architectural Woodcarving

29 Pudding Lane York, Maine 03909 Phone/Fax 207-363-7924 madow@maine.rr.com On-line Portfolio: www.archcarving.com



Stair Specialist, Inc.

Circular stairways built with pride and unmatched craftsmanship. A lasting tribute to any fine home.

FOR ADDITIONAL INFORMATION CALL: (269) 964-2351 **OR MAIL \$4.00** FOR A 16 PAGE **COLOR BROCHURE** 2257 W. COLUMBIA AVE. BATTLE CREEK, MI 49015 www.stairspecialistinc.com



Bars and Backbars bought sold and rented Victorian, Arts and Crafts and Deco Also, "Zinc" (pewter) Bars fabricated

702 Columbia Street, Hudson, NY 600 West 131st Street (at Broadway), Manhattan, NY

212-431-0600

WRITE IN NO. 1939

BOSTON TURNING WORKS Fine Architectural Woodturning since 1975 **Finials Balusters Newel Posts Porch Posts** Columns

Custom Turning Services



617 924-4747 phone 617 924-4949 fax 120 Elm Street, Watertown MA 02472

vw.bostonturningworks.com

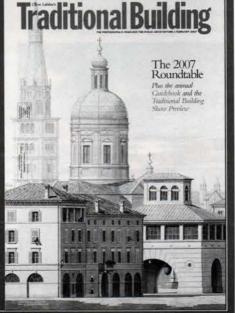
WRITE IN NO. 1936

Table Legs



WRITE IN NO. 1061







WRITE IN NO. 7120

Green Engineering & Technology

To order product literature, go to www.traditional-building.com and click on "Free Product Literature" or fill out the card at page 34.

Armacell LLC

919-304-3846; Fax: 919-304-3720 7600 Oakwood St. Ext. Mebane, NC 27302

Supplier of low-VOC spray adhesive: hexane- & toulene-free Armaflex 520 BLV; used with HVAC sheet & roll insulation; no chlorinated solvents or ozonedepleting compounds.

CertainTeed Corp.

610-341-7000; Fax: 610-341-7777 www.certainteed.com Valley Forge, PA 19482

Supplier of environmentally friendly building materials: ToughGard, FiberCement siding & more.



FiberCement siding from CertainTeed is made of recycled fly ash, Portland cement, wood fiber and

ClimateMaster

405-745-6000; Fax: 405-745-6058 www.climatemaster.com Oklahoma City, OK 73179

Manufacturer of ground-source heat pumps: for commercial & residential use.



Daikin's FXLQ energy-efficient indoor fan-coil air-conditioning unit can be wall mounted, free standing, concealed or exposed.

Daikin AC

972-512-1956; Fax: 972-245-1038 www.daikinac.com Carrollton, TX 75006

Supplier of air-conditioning equipment: enrgy-efficient VRV-S condensing units & floor-standing indoor fan-coil units; ecological manufacturing.

Write in No. 1944

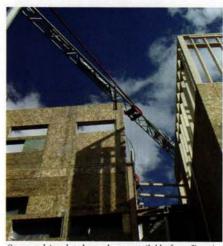
800-792-7477; Fax: 502-778-5587 1843 Northwestern Pkwy. Louisville, KY 40203

Manufacturer of FischerSIPs panels: lamination of expanded polystyrene foam core between two sheets of 7/16-in. oriented strand board; sizes from 4x8 to 8x24 ft.

Pittsburgh Corning

800-359-8433; Fax: 724-325-9704 www.foamglasinsulation.com Pittsburgh, PA 15239

Supplier of foamglass cellular glass insulation: for pipes, equipment, tanks & vessels; sheet insulation for roofs; noncombustible; resists corrosion.



Structural insulated panels are available from Premier

Premier Building Systems

800-275-7086; No fax www.pbspanel.com Tacoma, WA 98424

Manufacturer of structural insulated panels (SIPs): insulated roofing decking & other framing.

Robson Thermal Mfg. Ltd.

604-538-6681; No fax www.robsonthermal.com White Rock, BC, Canada V4B1G3

Manufacturer of non-toxic LEED products: canvas jackets for mechanical insulation; lagging adhesive; insulation mastic; duct sealants & liner adhesive; anti-erosion coating for duct liner; anti-condensation paint & more.

Schott Solar, Inc.

916-774-3000; Fax: 916-784-9781 www.us.schott.com Roseville, CA 95661

Supplier of glass solar panels: provides limited daylighting while generating energy.

United Solar Ovonic LLC

248-475-0100; Fax: 248-364-0510 www.uni-solar.com Auburn Hills, MI 48326

Manufacturer of PV shingles & standing seam roofing panels: conventional installation; standing seam panels for laminating or as a PV-integrated product; all products use triple-junction amorphous silicon technology.

Green Finishes

To order product literature, go to www.traditional-building.com and click on "Free Product Literature" or fill out the card at page 34.

AFM/American Formulating & Mfg.

800-239-0321; Fax: 619-239-0565 www.afmsafecoat.com San Diego, CA 92103

Manufacturer of low-odor, non-toxic building & maintenance products:

Safecoat paints & finishes; Safechoice cleaners & carpet care; can be safely used by people who are chemically sensitive.

Amazon Environmental, Inc.

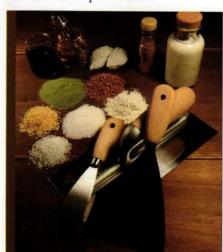
951-588-0206; Fax: 951-588-0379 www.amazonpaint.com Riverside, CA 92503

Provider of non-hazardous paint recycling services: recycles water-based paint; 3 facilities.

BioLime

503-675-2722; Fax: 503-675-2791 www.biolime.com Lake Oswego, OR 97035

Manufacturer of lime paints & plasters: based on natural earth-based ingredients; no chemical-based admixtures, bonding agents, polymers or synthetics; for new



Sustainable paints and plasters are available from BioLime.

Cohalan Company, Inc.

302-684-3299; Fax: 302-684-5974 www.keimmineralsystems.com Lewes, DE 19958

Supplier of Keim mineral silicate paint: produces organic "liquid stone" finish; exterior & interior products; 370 standard plus custom colors.

Fine Paints of Europe

800-332-1556; Fax: 802-457-3984 www.finepaintsofeurope.com Woodstock, VT 05091

Importer of paints & varnishes from Holland: Eurolux water-based; low VOC content; durable, high-quality coatings.



Period-style paint colors made from natural materials such as milk protein, lime, earth pigments and clay fillers are available from The Old Fashioned Milk Paint Co. for both interior and exterior applications.

The Old Fashioned Milk Paint Co.

866-350-6455; Fax: 978-448-2754 www.milkpaint.com Groton, MA 01450

Manufacturer of milk paint: all-natural, zero-VOC paint in powder form; wash, full cover coat & stenciling; 16 colors; original formula for porous surfaces & SafePaint for previously painted walls. Write in No. 5880



This wood floor was finished with Sutherland Welles' polymerized tung oil.

Sutherland Welles Ltd.

800-322-1245; Fax: 802-635-2722 www.tungoilfinish.com North Hyde Park, VT 05665

Manufacturer of pure, low-toxic polymerized tung-oil finishes: for wood or any porous surface; creates a handrubbed, old-world patina on new wood with vintage colors or restores an aged surface; easy application & maintenance.



Imitated, but never duplicated.



100% money back guarantee. More information:

www.milkpaint.com Toll free at {866} 350-6455



Chemically safe Historic Paints since 1974 THE OLD FASHIONED MILK PAINT COMPANY 436 MAIN ST., P.O. BOX 222, GROTON, MA 01450



The balance of performance, flexibility & control. Being a worldwide leader of advanced air-conditioning solutions requires a delicate balance. It requires anticipating the basic needs of customers by building highly differentiated products. It demands cutting-edge technologies, while building upon established best practices, traditions and customs. At Daikin AC, we are providing the world with more than 80 years of constant achievements in the field of HVAC.

www.daikinac.com



Daikin AC. Try a better perspective.



absolute comfort

Green Millwork

To order product literature, go to www.traditional-building.com and click on "Free Product Literature" or fill out the card at page 34. To order literature from the companies listed here, enter **No. 9779**.

Antique Woods & Colonial Restorations, Inc.

888-261-4284; Fax: 610-913-0674 www.vintagewoods.com Gouverneur, NY 13642

Fabricator of barn frames: design work on barn/home conversions; resawn & recovered vintage wood flooring, siding, beams, mantels & antique timber frames.

Architectural Millwork Mfg. Co.

800-685-1331; Fax: 541-463-2068 www.archmillwork.com Eugene, OR 97402

Supplier of architectural millwork: finished & unfinished FSC-certified stock & custom molding, paneling; custom available; up to 11¼-in. wide; paint MDF made from sawmill by-product.

Black's Farmwood

415-454-8312; Fax: 415-454-8393 www.blacksfarmwood.com San Rafael, CA 94912

Supplier of reclaimed wood products: from deconstructed buildings & river bottoms; variety of species; timbers & beams, re-milled flooring & barn siding.

Cascadia Forest Goods, LLC

541-485-4477; Fax: 541-485-1852 www.cascadiaforestgoods.com Dexter, OR 97431

Supplier of FSC-certified & recycled forest products: dimensional lumber, decking, timbers, beams, siding, hardwood & softwood veneers, flooring, paneling & trim; from Pacific Northwest & British Columbia; many species.

Conklin's Authentic Antique Barnwood

570-465-3832; Fax: 570-465-3835 www.conklinsbarnwood.com Susquehanna, PA 18847

Supplier of reclaimed & resawn antique lumber: flooring in white pine, chestnut, heart pine, antique oak & hemlock; weathered barn wood, hand-hewn beams, pole rafters, used metal roofing & other antique barn materials.

Duluth Timber Co.

218-727-2145; Fax: 218-727-0393 www.duluthtimber.com Duluth, MN 55805

Supplier of antique heavy timbers: flooring, posts, beams, paneling, mantels & siding; heart pine, jarrah, Douglas fir, white

pine, eucalyptus, redwood & cypress; salvaged from industrial sites; matched millwork for restoration.

Endura Wood Products, Ltd.

503-233-7090; Fax: 503-233-7091 www.endurawood.com

Portland OP 07214

Portland, OR 97214

Supplier of regional, certified & reclaimed wood products: from FSC forests; flooring, lumber, countertops, stair parts, wall panels & more.



This stair was manufactured by Goodwin Heart Pine in river-recovered select heart pine.

Goodwin Heart Pine Co.

800-336-3118; Fax: 352-466-0608 www.heartpine.com Micanopy, FL 32667

Manufacturer of antique hardwood flooring: river-recovered heart pine & heart cypress, Antique Legacy (building-reclaimed) heart pine & wild black cherry; in 16 grades; stair parts, millwork, moldings, paneling & furniture.

Homeshield Colonial Craft Moulding Div.

800-289-6653; Fax: 715-472-8770 www.home-shield.com Luck, WI 54853

Supplier of FSC-certified hardwood & softwood moldings.

Les Produits Forestiers Becesco

418-227-3671; Fax: 418-228-3672 2900, 95ieme Rue St-Georges, QC, Canada G6A 1E3 Supplier of FSC-certified hardwood lumber: oak, beech, birch, hard maple & soft maple.

Longleaf Lumber, LLC

617-871-6611; Fax: 617-871-6615 www.longleaflumber.com Cambridge, MA 02138

Supplier of antique wood for flooring, beams & dimensional stock: wide planks available in antique heart pine, antique chestnut, reclaimed eastern white pine & antique oak; bamboo & cork.

Write in No. 272

Mayse Woodworking Co. 888-566-4532; Fax: 215-822-8307 319 Richardson Rd. Lansdale, PA 19446

Supplier of antique heart pine flooring: in 7/8-in. tongue-&-groove flooring (2½ in. to 15 in.); stair parts & custom milling.

Menominee Tribal Enterprises

715-756-2311; Fax: 715-756-2386 www.mtewood.com Neopit, WI 54150

Supplier of a full line of FSC-certified wood products: wood harvested from the Menominee Forest: 16 species available.

Mountain Lumber Co.

800-445-2671; Fax: 434-985-4105 www.mountainlumber.com Ruckersville, VA 22968

Supplier of reclaimed wood: wide board, strip & random width; chestnut, oak, heart pine, European Cooper's oak & English brown oak; the latter 2 species have unique patinas from years of immersion in cider or ale.

Pioneer Millworks

800-951-9663; Fax: 585-924-9962 www.pioneermillworks.com Farmington, NY 14425

Supplier of reclaimed & sustainably harvested woods: barn boards; flooring; heart pine, oak, elm, chestnut, hickory, Douglas fir, Australian jarrah & special wood mixes; custom millwork.

Randall Custom Lumber, Ltd.

360-426-8518; Fax: 360-426-8518 3530 S.E. Arcadia Rd. Shelton, WA 98584

Manufacturer of FSC-certified lumber: decking, flooring, stair parts, hard & soft lumber; ash, red cedar, red alder, Douglas fir, madrone & maple.

Solid Wood Products

250-320-0936; Fax: 250-374-9602 www.solidwood.com
Lac Le Jeune, BC, Canada V1S 1Y8
Manufacturer of reclaimed wood building products: wide-plank flooring, trim, wainscoting, panels & stair parts; custom furniture.

Urban Hardwoods

206-766-8199; Fax: 206-766-7997 www.urbanhardwoods.com Seattle, WA 98134

Manufacturer of custom furniture, flooring & millwork from salvaged urban trees: Smartwood-certified; wood recovered within a 50-mile radius of facility; products accepted & recycled at the end of their useful lives.

Vintage Lumber Co.

800-499-7859; Fax: 301-845-6475 www.vintagelumber.com Woodsboro, MD 21798

Supplier of re-milled woods: random-width, tongue-&-groove plank flooring; antique wood; oak, chestnut, yellow pine & new rustic-grade woods; solid or engineered & unfinished or prefinished in various grades, widths & thicknesses.

Write in No. 272

Vintage Timberworks

951-695-1003; Fax: 951-695-9003 www.vintagetimber.com Temecula, CA 92592

Supplier of reclaimed timber, flooring & beams: wood salvaged from the US, Canada & Australia; Douglas fir, cedar & redwood available; at least 70 years-old; offered "as is," remilled and/or refinished; variety of widths & lengths.

What It's Worth

512-328-8837; Fax: Same as phone www.wiwpine.com Austin, TX 78716

Supplier of antique longleaf heart-pine flooring, dimensional lumber, posts & beams: clear vertical-grain quartersawn cuts. Write in No. 1464



TRADITIONAL BUILDING EXHIBITION AND CONFERENCE

Chicago 2008

conference: September 18-20 **exhibition:** September 19-20

MARK YOUR CALENDAR!

Green Flooring

To order product literature, go to www.traditional-building.com and click on "Free Product Literature" or fill out the card at page 34. To order literature from the companies listed here, enter No. 9777.

Aged Woods/Yesteryear Floorworks Company

717-840-0330; Fax: 717-840-1468 www.agedwoods.com York, PA 17402

Supplier of flooring made from recycled barn wood: antique oak, distressed oak, yellow pine, maple; 3/4-in. unfinished wood; various widths.

American Slate Co.

800-553-5611; Fax: 925-977-4885 www.americanslate.com Walnut Creek, CA 94596

Supplier of slate roofing tile: 16- & 24in. sizes; colors ranging from grays & greens to black, purple & multi-colors: other sizes & graduated roofing on request; thickness up to 11/4 in. in some colors; slate flooring.

Write in No. 2723



American Slate supplies slate flooring tile in many colors and in two sizes: 12x12-in. and 24x24-in.

Amorim Flooring North America, Inc.

410-553-6062; Fax: 410-553-6123 www.wicanders.com Hanover, MD 21076

Supplier of natural cork flooring: PVCfree; 5 collections; 108 designs.

Antique Lumber Corp.

617-548-1829; Fax: 617-884-5120 www.antiquelumber.net Chelsea, MA 02150

Supplier of vintage wood: antique & salvaged timbers & boards; antique wood flooring; random-width & wideboard flooring.

Write in No. 1457

Antique Specialty Flooring

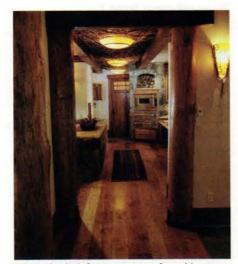
413-782-3900; Fax: 413-783-9866 www.antiquespecialtyflooring.com Springfield, MA 01118

Supplier of antique specialty wood flooring: random-width, tongue-&groove; chestnut, oak, heart pine, white pine & hemlock.

Appalachian Woods, LLC

800-333-7610; Fax: 540-337-1030 www.appalachianwoods.com Stuarts Draft, VA 24477

Supplier of reclaimed & remilled timber: for flooring & other custom millwork applications, including flooring; variety of species, American chestnut, heart pine & oak; family business since 1976.



This wide-plank flooring was manufactured by Appalachian Woods in wormy chestnut.

Armstrong World Industries, Inc.

717-397-0611; Fax: 717-397-0611 www.armstrong.com Lancaster, PA 17604

Supplier of linoleum: DLW made in Germany; variety of colors & styles; sheet & tile; various thicknesses.

Bear Creek Lumber

800-597-7191; Fax: 509-997-2040 www.bearcreeklumber.com Winthrop, WA 98862

Supplier of high-quality clear-grade lumber siding, decking, paneling, flooring, ceiling, timbers & post & beam: sustainable & recycled; western red cedar, Port Orford cedar, Douglas fir, ipe, cypress, pine, fir, hemlock, jatoba & more.



This clear and select grade flooring was supplied by Bear Creek Lumber.

Bedrock Industries

206-283-7625; Fax: 206-283-0497 Seattle, WA 98119

Supplier of Blazestone tile: made of 100% recycled glass, most post-consumer; various sizes & shapes; architectural accents.

Brandt, Sylvan

717-626-4520; Fax: 717-626-5867 www.sylvanbrandt.com Lititz, PA 17543

Manufacturer of salvaged wood flooring, ceiling boards & paneling: wide board, random width & weatherboard (barn siding); chestnut, oak, pine, heart pine, cypress, walnut, hemlock, fir & hickory; other antique building materials.

Write in No. 3950

Capri Cork

800-492-2613; Fax: 717-390-4721 http:www.capricork.com Lancaster, PA 17601

Manufacturer of cork & recycled rubber floor tile: combined with post-industrial cork; many colors.

Carlisle Restoration Lumber

800-595-9663; Fax: 603-446-3540 www.wideplankflooring.com Stoddard, NH 03464

Custom manufacturer of traditional wide-plank flooring & paneling: hand selected from antique & old-growth pine & hardwoods; deals directly with homeowners, builders, architects & specialists in historic restoration & reproduction.



Antique oak floor boards from Carlisle Wide Plank Floors were used to create this floor.

Carlson's Barnwood Co.

309-522-5550; Fax: 309-522-5123 www.carlsonsbarnwood.com Cambridge, IL 61238

Supplier of antique barn wood & salvaged materials: planks, beams, dimensional lumber, re-milled flooring & architectural antiques; pine, oak, heart pine & mixed species; salvaged doors, windows & shutters; antique lighting.

Write in No. 2744



Carlson's Barnwood reclaims antique wood from old barns and turns it into hardwood flooring.

Centre Mills Antique Floors

717-677-9698; Fax: 717-334-6223 www.centremillsantiquefloors.com Aspers, PA 17304

Manufacturer of antique tongue-&groove boards & beams: flooring, ceilings, walls & wainscoting; fireplace mantels; hand-hewn oak, chestnut beams & hewn logs from original log cabins.

Certified Forest Products, LLC

925-258-4372; Fax: 925-258-4373 www.certifiedforestproducts.com Orinda, CA 94563

Supplier of FSC-certified & reclaimed wood products: hardwoods, cedar, Douglas fir, pine & redwood; lumber, plywood, decking, siding, flooring, interior & exterior millwork.



Antique random-width wide-plank oak from Chestnut Specialists can be used to create custom flooring.

Chestnut Specialists, Inc.

860-283-4209; Fax: Same as phone www.chestnutspec.com Plymouth, CT 06782

Manufacturer of antique wood for flooring: chestnut, oak, pine & hemlock; hewn barn beams, weathered siding & sheathing planks.

Call for more information.

Conklin's Authentic Antique Barnwood

570-465-3832; Fax: 570-465-3835 www.conklinsbarnwood.com Susquehanna, PA 18847

Supplier of reclaimed & resawn antique lumber: flooring in white pine, chestnut, heart pine, antique oak & hemlock; weathered barnwood, hand-hewn beams, pole rafters, used metal roofing & other antique barn materials.



Conklin's Authentic Barnwood supplied recycled antique oak for this flooring.

Country Road Associates, Ltd.

845-677-6041; Fax: 845-677-6532 www.countryroadassociates.com Millbrook, NY 12545

Supplier of reclaimed wood: wide board & random width; chestnut, maple, white oak, white pine, heart pine, cherry, elm & walnut; distributor of reclaimed barn siding, hand-hewn beams, paneling & cabinetry.

Write in No. 7480



Authentic 19th-century reclaimed barn wood and hand-hewn beams are available from Country Road Associates in pine, hemlock, chestnut and other species.

Duluth Timber Co.

218-727-2145; Fax: 218-727-0393 www.duluthtimber.com Duluth, MN 55805

Supplier of antique heavy timbers: flooring, posts, beams, paneling, mantels & siding; heart pine, jarrah, Douglas fir, white pine, eucalyptus, redwood & cypress; salvaged from industrial sites; matched millwork for restoration.



Duluth Timber offers resawn heart pine for flooring, decking and other applications.

Expanko Cork Co.

800-345-6202; Fax: 610-344-0288 www.expanko.com Coatesville, PA 19320

Manufacturer of solid-cork tile: 12- & 24-in. square tile; 3/16- & 5/16-in. thicknesses; 17 patterns; polyurethane or wax coating or unfinished.

Goodwin Heart Pine Co.

800-336-3118; Fax: 352-466-0608 www.heartpine.com Micanopy, FL 32667

Manufacturer of antique hardwood flooring: river-recovered heart pine & heart cypress, Antique Legacy (buildingreclaimed) heart pine & wild black cherry; in 16 grades; stair parts, millwork, moldings, paneling & furniture.



The old-growth heart pine flooring was re-milled by Goodwin Heart Pine and installed in this building in Key West, FL, to match the existing flooring.

Heartwood Industries, Inc.

270-275-9424; No fax www.americanheartwoods.com Hartford, KY 42347

Manufacturer of recycled antique flooring: cabinet stock, dimensioned flooring planks, hand-hewn timbers, & barn lumber; antique heart pine, oak & cypress.

Longleaf Lumber, LLC

617-871-6611; Fax: 617-871-6615 www.longleaflumber.com Cambridge, MA 02138

Supplier of antique wood for flooring, beams & dimensional stock: wide planks; antique heart pine, antique chestnut, reclaimed eastern white pine & antique oak; bamboo & cork.

Write in No. 272



This flooring was installed using reclaimed antique heart pine in a flatsawn select grade supplied by Longleaf Lumber.

Longwood Antique Woods

859-233-2268; Fax: 859-455-9629 www.longwoodantiquewoods.com Lexington, KY 40505

Supplier of hand-hewn & rough-sawn beams & flooring: salvaged from old tobacco & cotton warehouses, German feed barns & log cabins.

Write in No. 1844

Mats, Inc.

800-628-7462; Fax: 781-344-1537 www.matsinc.com Stoughton, MA 02072

Supplier of environmentally friendly flooring: Eco-Tile & products made from recycled tires; contributes to LEED credits.

Mill Valley Bamboo Associates

415-925-1188; Fax: 415-925-6088 14 E. Sir Francis Drake Blvd. Larkspur, CA 94939

Manufacturer of bamboo flooring: formaldehyde-free; custom specifications available; more than 60 styles.

Mountain Lumber Co.

800-445-2671; Fax: 434-985-4105 www.mountainlumber.com Ruckersville, VA 22968

Supplier of reclaimed wood: wide board, strip & random width; chestnut, oak, heart pine, European Cooper's oak & English brown oak; the latter 2 species have unique patinas from years of immersion in cider or ale.

Natural Cork, Ltd.

800-404-2675; Fax: 706-733-8120 www.naturalcork.com Augusta, GA 30909

Manufacturer of natural-cork products: parquet tiles in 12x12- & 12x24-in. sizes; Floating Floor systems; cork floor underlayment rolls & sheets; corkcleaning products.

Nova Distinctive Floors

866-576-2458; Fax: 310-830-9589 www.novafloorings.com Carson, CA 90745

Manufacturer of linoleum flooring: planks & tile; glueless system; in 9 col 10-year warranty.



Reclaimed, hand-planed antique chestnut flooring supplied by Old Wood Workshop is available in widths from 9 to 14 in.

Old Wood Workshop, LLC

860-655-5259; No fax www.oldwoodworkshop.com Pomfret Center, CT 06259

Supplier of reclaimed & resawn antique wood flooring; antique wood & beams; harvest tables made from antique wood; architectural antiques.

Pennsylvania Barn Co.

610-390-3190; No fax 48 Helbert Lane Mertztown, PA 19539

Supplier of 18th- & 19th-century salvaged materials: antique wide-board flooring, barn siding, beams, mantels & architectural artifacts; complete antique barns & log buildings; restoration & consulting. Write in No. 1805

Pioneer Millworks

800-951-9663; Fax: 585-924-9962 www.pioneermillworks.com Farmington, NY 14425

Supplier of reclaimed & sustainably harvested woods: barn boards; flooring; heart pine, oak, elm, chestnut, hickory, Douglas fir, Australian jarrah & special wood mixes; custom millwork.



Pioneer Millworks offers a wide range of reclaimed antique wood flooring, custom millwork and timbers.

Richard Marshall Fine Flooring, Inc.

800-689-5981; Fax: 323-418-3962 www.richardmarshall.com Hawthorne, CA 90250

Manufacturer of wood flooring: antique, parquet, random- & wide-width.



This hand-crafted wide oak plank flooring from Richard Marshall's Historic Collection comes from sustainable forests.

Sandhill Industries

208-345-6508; Fax: 208-345-4424 www.sandhillnd.com Boise, ID 83716

Manufacturer of recycled-glass wall & floor tile: in mosaics, square, bar & triangle shapes; assorted colors & textures; matte or glossy.

Sheldon Slate Products Co., Inc.

207-997-3615; Fax: 207-997-2966 www.sheldonslate.com Monson, ME 04464

Manufacturer of slate products: roofing, floor tile, flagging, structural applications, signs, plaques, monuments & kitchen counters & sinks; custom cutting; slate flagstone & wall & landscape stone; church work.



This decorative slate floor was created with materials from Sheldon Slate.

Smith & Fong Co.

650-872-1184; Fax: 650-872-1185 www.plyboo.com South San Francisco, CA 94080

Supplier of 'Plyboo' bamboo: tongue-&groove plank flooring, parquet, plywood & paneling.



This Plyboo parquet flooring material is distributed by Smith & Fong.

Southern Wood Floors

888-488-7463; Fax: 706-855-0383 www.southernwoodfloors.com Augusta, GA 30907

Supplier of reclaimed, new & engineered flooring: wide-plank, heart pine & southern pine; pre-finishing.

The Woods Company

888-548-7609; Fax: 717-263-9346 www.thewoodscompany.com Chambersburg, PA 17201

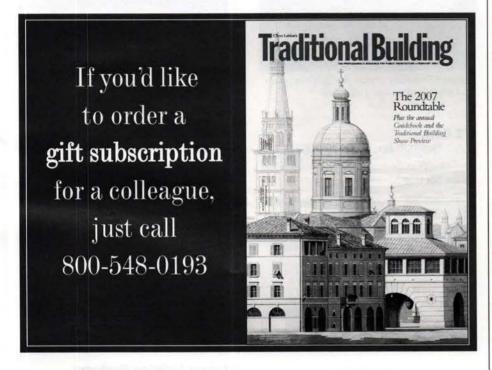
Manufacturer of random-width tongue-&-groove plank flooring & custom millwork: antique reclaimed & traditional new woods; heart pine, oak, chestnut, white pine, yellow pine, walnut, cherry, maple, hemlock & poplar.



This antique oak Old Original-grade flooring was provided by The Woods Co.



WRITE IN NO. 3950





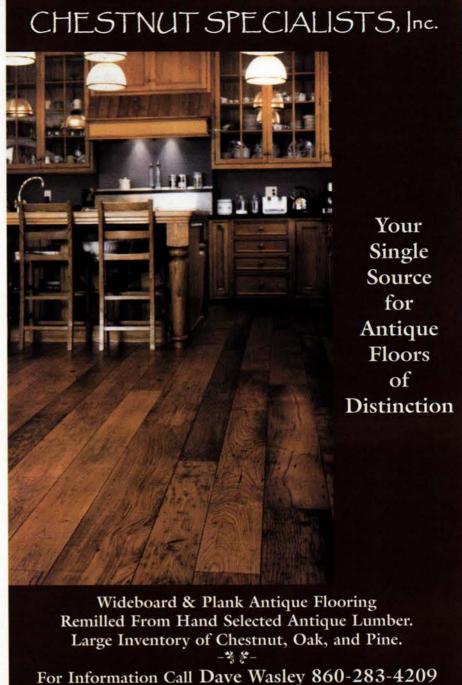
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restoration & new construction

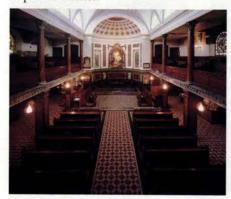
www.traditional-building.com

architects • contractors • building owners facilities managers • interior designers developers • landscape architects building managers • preservation planners restoration consultants

Tile Source, Inc.

843-689-9151; Fax: 843-689-9161 www.tile-source.com Hilton Head Island, SC 29926

Supplier of genuine encaustic tile, simulated reproductions & Victorian-style wall & fireplace tile: advice on economical restoration of 19th-century ceramic floors for public buildings, courthouses & private homes.



The traditionally styled encaustic tile in this church floor was supplied by Tile Source.

Unique American Teak

941-758-0365; No fax www.uniqueamericanteak.com Bradenton, FL 34203

Importer of FSC-certified teak & manufacturer of stained, prefinished & natural solid teak flooring: solid wide planks in 4¾-in. widths; 3¾-in. special order; random lengths from 12- to 48-in. wide.



Vintage Lumber Co. supplied the salvaged distressed oak for this solid plank flooring.

Vintage Lumber Co.

800-499-7859; Fax: 301-845-6475 www.vintagelumber.com Woodsboro, MD 21798

Supplier of re-milled woods: randomwidth, tongue-&-groove plank flooring; antique wood; oak, chestnut, yellow pine & new rustic-grade woods; solid or engineered & unfinished or prefinished in various grades, widths & thicknesses.

Vintage Timberworks

951-695-1003; Fax: 951-695-9003 www.vintagetimber.com Temecula, CA 92592

Supplier of reclaimed timber, flooring & beams: wood salvaged from the U.S., Canada & Australia; Douglas fir, cedar & redwood available; at least 70 years-old; offered "as is," re-milled and/or refinished; variety of widths & lengths.

Wausau Tile, Inc.

800-388-8728; Fax: 715-359-7456 www.wausautile.com Rothschild, WI 54474

Manufacturer of terrazzo & terrazzolike tile made from recycled glass (approximately 33% by weight): recycled material said to be stronger & more water-resistant than traditional terrazzo.



Wausau Tile provides terrazzo flooring tile in custom color blends to meet client specifications.

WE Cork

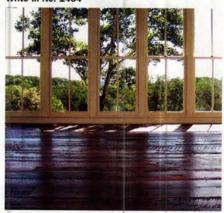
603-778-8558; Fax: 603-778-7052 www.wecork.com Exeter, NH 03833

Manufacturer of cork tile & plank flooring: available in light, medium, dark or leopard shades; unfinished, waxed or varnished matte; floating floors; soundcontrol underlayment.

What It's Worth

512-328-8837; Fax: Same as phone www.wiwpine.com Austin, TX 78716

Supplier of antique longleaf heartpine flooring, dimensional lumber, posts & beams: clear vertical-grain quartersawn cuts.



This wide-plank Old Reveal flooring was supplied by

Wood Floor Resource Group, LLC

609-589-3100; Fax: 609-589-3101 www.woodflooring.com Burlington, NJ 08016

Supplier of wood flooring products: FSC-certified wood, salvaged & reclaimed wood; renewable non-wood materials; low- or zero-formaldehyde products; LEED assistance.

Green Lighting

To order product literature, go to www.traditional-building.com and click on "Free Product Literature" or fill out the card at page 34. To order literature from the companies listed here, enter No. 9778.

Architectural Area Lighting, Inc.

714-994-2700; Fax: 714-994-0522 www.aal.net

La Mirada, CA 90638

Manufacturer of architectural exterior lighting: IDA-approved fixtures for darksky applications; carbon-neutral manufacturer uses sustainable technologies to minimize environmental impact.

Write in No. 1702



Architectural Area Lighting offers these copper (right) and mica shades.

Kim Lighting

626-968-5666; Fax: 626-369-2695 www.kimlighting.com City of Industry, CA 91716

Manufacturer of outdoor, site, area & landscape lighting: uses sustainable, energy-saving manufacturing techniques.



Exterior lighting is available from Kim Lighting in

Litetronics International, Inc.

800-860-3392; Fax: 708-371-0627 www.litetronics.com Aslip, IL 60803

Manufacturer of compact fluorescent lighting: different colors, sizes & shapes; can be used on sign lightings & blinking operations.

Rejuvenation

888-401-1900; Fax: 800-526-7329 www.rejuvenation.com Portland, OR 97210

Manufacturer of authentic reproduction lighting: more than 50 interior & exterior styles; energy-effient manufacturer; regards preservation as important part of "green" manufacturing.

Write in No. 7630



The Nicolai Art Deco light fixture from Rejuvenation is available in three finishes.

Remains Lighting

212-675-8051; Fax: 212-675-8052 www.remains.com New York, NY 10001

Importer & distributor of traditional lighting fixtures: thousands of antique chandelier & sconces restored; fixtures designed to meet energy-efficient standards; recommends CFLs.

Write in No. 792



The Lilith sconce, model #IS1728.1, is one of many lighting fixtures available from Remains Lighting's

Sterner Lighting Systems

864-678-1000; Fax: www.sternerlighting.com Winsted, MN 55395

Designer & manufacturer of post-mounted lighting: street, custom & area lighting, landscape & outdoor flood lighting; operations designed to reduce waste during production.

Thomas Lighting

502-420-9625; Fax: 502-420-9640 www.thomaslighting.com Louisville, KY 40223

Supplier of traditional lighting fixtures: indoor & outdoor fixtures; Hampshire collection features energy-saving lamps.



The model PL5206-23 in Thomas Lighting's Biltmore family features a Colonial bronze finish; it is 23 in, tall x 81/2

Westinghouse Lighting Corp.

800-999-2226; Fax: 215-464-4115 www.westinghouselighting.com Philadelphia, PA 19154

Manufacturer of compact fluorescent lamps (CFLs): integral-ballast, screw-in & plug-in CFL replacements; dimming, 3way, photo-sensing, full-spectrum, globe, interior & exterior flood CFLs; various sizes & wattages.

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www.aal.net/ad/tbgreen.html



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Green Restoration Products

To order product literature, go to www.traditional-building.com and click on "Free Product Literature" or fill out the card at page 34.

Conspec

800-348-7351; Fax: 913-371-3330 www.conspecmkt.com Kansas City, KS 66106

Manufacturer of concrete cleaning product: Orange Peel is heavy-duty, biodegradable, citrus-based degreaser & stripper; for concrete cleaning & preparation for sealers.

Dumond Chemicals, Inc.

212-869-6350; Fax: 212-764-5762 www.peelaway.com New York, NY 10036

Manufacturer of paint removers: Peel Away 6 & 7 made from biodegradable materials; contain non-hazardous dibasic ester solvent rather than methylene chloride or caustic hydrofluoric acid.



Peel Away 1 from Dumond Chemicals was used in conjunction with the CO2 Clean Blast process to remove lead-based paint from 15,000 sq.ft. of interior cast-iron window frames during the five-year, \$200-million renovation of the Greek Revival National Portrait Gallery in Washington, DC.

Fiberlock Technologies, Inc.

800-342-3755; Fax: 978-475-6205 www.fiberlock.com Andover, MA 01810

Supplier of Piranha IV alternative to toxic strippers: no methylene chloride, methanol, toluene, methyl ethyl ketone or acetone; 5 formulations.

Franmar Chemical, Inc.

800-538-5069; Fax: 309-827-9308 www.franmar.com Bloomington, IL 61702

Supplier of cleaners made of soybean oil: Soy-Gel strips urethanes, polyurethanes & paint; contains methylated soybean oil & mild surfactants.

SOYsolv

800-231-4274; Fax: 419-992-4595 www.soysolv.com Tiffin, OH 44883

Supplier of nontoxic paint remover: water-rinsable & biodegradable; removes graffiti, permanent markers & more.

Timber Treatment Technologies

703-644-0391; No fax www.timbersilwood.com Springfield, VA 22153

Manufacturer of TimberSIL, a sodiumsilicate-based permanent treatment for wood: non-toxic, odorless & non-volatile.

Green Roofing

To order product literature, go to www.traditional-building.com and click on "Free Product Literature" or fill out the card at page 34. To order literature from the companies listed here, enter **No. 9780**.

AlpineSnowGuards.com

888-766-4273; Fax: 888-766-9994 www.alpinesnowguards.com Morrisville, VT 05661

Supplier of snow retention systems: made of recycled steel, aluminum & stainless steel; aluminum & stainless contains 50% post-consumer recycled metal; brass contains 70%.

Write in No. 145

American Slate Co.

800-553-5611; Fax: 925-977-4885 www.americanslate.com Walnut Creek, CA 94596

Supplier of slate roofing: 16- & 24-in. sizes; colors ranging from grays & greens to black, purple & multi-colors; other sizes & graduated roofing on request; thickness up to 1¹/₄ in. in some colors; slate flooring.

Write in No. 2723

shingles for roofing & siding: installation instructions; AIA seminars; fire-retardant & preservative-treated products.

Classic Metal Roofing Systems

800-543-8938; Fax: 937-778-5116 www.classicroof.com Piqua, OH 45356

Supplier of Rustic Shingle: made from alloy with recycled aluminum (mostly beverage cans); resembles wood shakes; finished with baked-on Kynar coating; 12x24-in. panels; many colors.

Custom Tile Roofing

303-761-3831; Fax: 303-761-3839 www.customtileroofing.com Denver, CO 80216

Supplier of roofing materials: salvaged clay & concrete tile.

Durable Slate Co., The

800-666-7445; Fax: 614-299-7100 www.durableslate.com Columbus, OH 43201

Supplier of salvaged slate & clay tile roofing materials: can match colors & styles no longer produced.

Echeguren Slate, Inc.

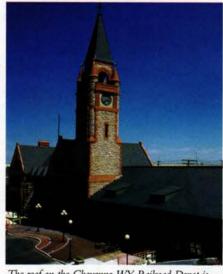
415-206-9343; Fax: 415-206-9353 www.echeguren.com San Francisco, CA 94124

Supplier of salvaged roofing slate: sizes from 8x12 to 12x12 in.; thicknesses of $^{3}/_{16}$ & $^{3}/_{16}$ in.

Ecostar

800-211-7170; Fax: 888-780-9870 www.premiumroofs.com Mundelein, IL 60060

Supplier of recycled roofing tile: made of recycled rubber & plastics; look & durability of slate; 50-year warranty.



The roof on the Cheyenne, WY, Railroad Depot is made of recycled rubber and plastic tile from EcoStar.

GEM, Inc.

403-215-3333; Fax: 403-287-2012 9330 48th St. SE Calgary, AB, Canada T2C2R2

Supplier of recycled rubber shingle: made to look like slate tile & cedar shakes; fire-resistant; many colors.

Gladding, McBean

800-776-1133; Fax: 916-645-1723 www.gladdingmcbean.com Lincoln, CA 95648

Manufacturer of clay roofing tile: variety of shapes, sizes & fire-flashed blends; suitable for freeze/thaw climates; exceptional durability; low maintenance.

Write in No. 1705



Gladding, McBean's roofing tile is designed for low maintenance and durability.

Hilltop Slate, Inc.

518-642-2270; Fax: 518-642-1220 www.hilltopslate.com Middle Granville, NY 12849

Manufacturer of slate roofing shingles: six quarries in New York & Vermont; natural material is minimally processed; low maintenance roofing offers long life; since 1948.



Hilltop Slate supplies slate with rough chamfered edges; select sizes are available with sawn edges.

Industries Maibec, Inc.

800-363-1930; Fax: 418-653-4354 www.maibec.com Sainte-Foy QC, Canada G1X 3W3

Supplier of cedar shingles: wood is chainof-custody certified by SCS; unfinished, kiln-dried & factory-stained or factory-

Ludowici Roof Tile, Inc.

treated; many colors.

800-945-8453; Fax: 740-342-5175 www.ludowici.com New Lexington, OH 43764

Manufacturer of clay roof tile: many profiles, colors & finishes; suitable for freeze/thaw climates; durable natural material; low maintenance.

Write in No. 2760



Ludowici Roof Tile's lightweight ceramic shake tile is designed to look like wood and carries a 75-year

A member of the Cedar Shake & Shingle Bureau

supplied the western red cedar roofing and siding for

Cedar Shake & Shingle Bureau

Trade association for manufacturers, dis-

tributors & installers of cedar shakes &

604-820-7700; Fax: 604-820-0266

this waterfront house.

www.cedarbureau.org Sumas, WA 98295

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are constantly updated and expanded. This has lead Greenstone Slate to become a principal producer of colored slate roofing. Our consistently high quality product, excellence in service and installation support, and competitive, direct pricing—result

in the highest value possible in a slate roof.

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call us toll free for expert advice
and assistance: 866.357.3212,

Call us for a FREE interactive CD—about slate and The Greenstone Slate Co.



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WRITE IN NO. 3770

Reference TB01



WRITE IN NO. 1669

Re-Con Building Products, Inc.

877-267-7663; Fax: 205-879-5420 www.naturalsroofing.com Portland, OR 97225

Supplier of roofing products with high recycled content: polymer-based Naturals, a fiber-cement product offered in Rustic Shake & Quarry Slate styles; various colors; class A fire rated; 50-year warranty.

Re-New Wood, Inc.

800-420-7576; Fax: 918-485-1097 www.renewwood.com Wagoner, OK 74467

Supplier of roofing shingle: made from recycled PVC & reclaimed wood fibers; looks like wood shake; umber, teak & charcoal & custom colors.

Reclaimed Roofs, Inc.

302-369-9187; Fax: 302-397-2742 www.reclaimedroofs.com Hockessine, DE 19707

Supplier of reclaimed roofing slate & tile: matches slate & tile for repairs & additions.



Reclaimed Roofs supplied a blend of reclaimed Vermont Gray-Green slate for this roof in Redding, CT.

Renaissance Roofing, Inc.

800-699-5695; Fax: 815-547-1425 www.claytileroof.com Rockford, IL 61125

Supplier of historic clay tile & slate roof systems: new & salvaged tile; custom fabricator of stock sheet-metal flashing, standing-seam panels, gutters, cleats & decorative moldings.



The builders of the Summit shopping center in Birmingham, AL, turned to Renaissance Roofing to supply the salvaged Spanish clay tile for the roof.

Roof Tile and Slate Co., The

800-446-0220; Fax: 972-242-1923 www.claytile.com Carrollton, TX 75006

Supplier of clay tile & slate roofing & flooring: pavers & trim; custom blending; historic projects; new & salvaged tile; field tile & trim are palletized & ready to ship.



This roof is made up of salvaged roofing tiles supplied by Roof Tile and Slate.

Santafe Tile Corp.

888-305-8453; Fax: 305-888-0050 www.santafetile.com Miami, FL 33178

Manufacturer of clay roofing tile: various products in many colors; energysaving tile reflects sun off roof to keep building cooler.

Write in No. 1669

Tile Roofs, Inc.

888-708-8453; Fax: 708-479-7865 www.tileroofs.com Frankfort, IL 60423

Supplier & installer of clay tile, concrete tile & slate roofing: architectural sheet metal;

historic restoration; large inventory of salvaged slate, clay tile, concrete tile, finials & hard-to-find fittings; all tile in stock.



Tile Roofs, Inc. supplied the salvaged green Spanish tiles for this tile roof restoration in Richmond, IL.

Wellington Polymer Technology

866-423-3302; Fax: 519-380-0689 www.enviroshake.com

Chatham, ON, Canada N7M 5W8

Manufacturer of Enviroshake: 95% recycled material roofing shakes; resembles weathered cedar shakes within 3 to 9 months; 20-in. long, mixed widths; 50year limited warranty; custom-molded ridge caps.

Green Windows & Window Restoration

To order product literature, go to www.traditional-building.com and click on "Free Product Literature" or fill out the card at page 34.

Andersen Windows

877-773-6392; Fax: 651-264-4070 www.renewalbyandersen.com Cottage Grove, MN 55016

Manufacturer of Renewal windows: frames & sashes made of Fibrex postindustrial wood & waste-PVC composite; low-e4 glass; energy-efficient; designed to reduce heating & cooling costs.

Integrity Windows and Doors

888-419-0076; Fax: 651-452-3074 www.integritywindows.com Eagan, MN 55122

Supplier of windows: made of lowmaintenance Ultrex, a pultruded composite of fiberglass & polyester resin; appearance of natural wood; glazing options include low-e2 with argon insulating glass; windows designed to reduce heating & cooling costs.

J.S. Benson Woodworking & Design, LLC

800-339-3515; Fax: 802-254-4874 www.isbensonwoodworking.com Brattleboro, VT 05301

Manufacturer of high-end, custom windows: FSC-certified mahogany available; dual-sealed insulation; low-e coatings, argon-fill & warm-edge insulated glass spacers.

Jeld-Wen Windows & Doors

888-945-5627; Fax: 204-663-1072 www.wilmar.com

Winnipeg, MB, Canada, R2K 4H3

Manufacturer of energy-efficient windows: dual- & triple-pane glazing options; Solar Gain & Solar Shield low-e coatings.

Loewen Windows

800-563-9367; Fax: 800-563-9361 www.loewen.com

Steinbach, MB, Canada ROA 2A0

Manufacturer of windows & doors: Heat Smart glazing; double-glazed with low-e coatings & argon gas-fill; tripleglaze with various fill options; FSC certification option available; Energy Star window partner.



Many of Loewen's windows offer double- or triple-glazing.

Marvin Windows and Doors

888-537-7828; Fax: 651-452-3074 www.marvin.com

Warroad, MN 56763

Manufacturer of windows: high-R glazing options; triple glazing with two lowe coatings & argon gas-fill; many with U-factors below 0.25.

Write in No. 1263



Windows from Marvin Windows and Doors are available in a variety of large sizes and shapes; many have U-factors below 0.25.

Pella Windows & Doors

888-84-PELLA; Fax: 641-621-6457 www.pella.com Pella, IA 50219

Manufacturer of wood windows: interior hinged glass panels; exterior panel of single- or double-pane argon-filled, lowemissivity glazing; made with 21% postindustrial recycled content; many with U-factors below 0.25.



Pella offers windows made of 21% postindustrial recycled content.

Pilkington NA

800-221-0444; Fax: 419-247-4517 www.pilkington.com Toledo, OH 43697

Manufacturer of low-e glass: hard coat; double-pane unit; emissivity of 0.15.

Weather Shield Mfg. Co.

800-222-2995; Fax: 715-748-0169 www.weathershield.com Medford, WI 54451

Manufacturer of wood window products: R6 (triple-glazed, argon-filled panels) & R10 glazing (triple-glazed krypton/argon gas mix); spacer system enhances thermal performance.



Weather Shield's windows are designed to reduce heating and cooling costs.

The Right Thing

What are the facts and the myths of the replace vs. restore historic windows debate?

By Walter Sedovic and Jill H. Gotthelf

n just the past few years, both sides in the debate over replacement vs. restoration of historic windows have been called upon to clarify their stance. For those advocates of restoration, there has been a virtual watershed of support, mostly in the form of states, historical commissions and preservation organizations across North America identifying historic wood windows as "endangered" elements.

On the other side of the fence – and in response to this newfound "endangered" status, replacement window manufacturers have sought to develop standards that would demonstrate their products' effectiveness in a format that would – much like the FDA's nutrition labeling system – allow consumers to more readily compare apples to apples. At least one major manufacturer, Marvin Windows & Doors of Warroad, MN, has been reaching across the aisle to develop products that respond to the concerns of preservationists when replacement is appropriate. To their immense credit, they have even joined in arguing for retention and restoration of historic wood windows as a first option.

What has been gained by all of this activity? Despite this surge toward restoration, a generation (it has been 28 years since the first fully-assembled replacement window system was introduced by Anderson Windows in 1980) of listening to the marketing mantra of "replace those old drafty windows" continues to run deep in our national psyche. The preservation community, armed with increasingly useful information, is now in the position of responding: "go ahead, replace those old drafty windows...with new drafty windows."

Indeed, much of the current outcry against wholesale choices toward replacement has to do with how poorly many replacement windows perform. Payback periods are not as promoted and, unlike historic windows that have been in service for 50, 75, 100 or more years, replacement windows are creating a costly cycle of replacing, over and over again.

In preservation's corner, though, is still the dearth of useful facts that counter the assertion that old windows are inherently detrimental to the energy performance of a building. That notion is beginning to change; at present, people are considering the alternatives, and that alone is a huge leap in the right direction. In time, we will be armed with the facts and talking points that will facilitate a full-fledged movement toward restoration. And that is important on many levels: economic, environmental, educational and aesthetic.

To help this movement along, we have assembled a list of talking points, backed by data currently available (and growing at an accelerating pace), that will help arm those in search of truth, balance and a desire simply to do the right thing.

1. Replacement window manufacturers have now all but abandoned the claims of "U" factors that were given for the glass, not the assembly. They now favor a standardized rating system offered through the independent National Fenestration Rating Council (NFRC), which measures whole window performance.

Misleading. While it is true that in response to the misuse of "U" values, the

NFRC has been engaged in the testing and evaluation of whole window assemblies, what is not said is that every manufacturer has the option of discounting – and not revealing – two important markers: infiltration and condensation.

U-factor is the universal measure of heat gain or loss due to differences between inside and outside temperature, or the measure of how much heat may be conducted through a building element. It is the inverse of R-value, which measures a material's resistance to heat transfer. For U-values, lower numbers are better. A U-factor may refer to just the glass or glazing alone, but the NFRC's U-factor ratings are intended to represent the entire window performance, including frame and spacer material. Data requirements for the ratings have been relaxed, to permit the exclusion of condensation, air infiltration, visible transmittance (VT) and light-to-solar gain, the ratio between solar heat gain coefficient (SHGC) and VT.

Simply put, that means that a consumer may very well be purchasing a replacement window system that allows as much or more infiltration as their existing windows. While in the past, the argument favoring historic windows was largely based on anecdotal information, preservationists have tools already at their disposal to discount replacement window arguments: namely, standardized tests defined by the American Society for Testing & Materials (ASTM) that allow for both field and laboratory testing of infiltration. Employing these testing methods will clearly reveal the performance of existing windows, and help put to rest claims that new windows perform better.



The damage wrought by replacement windows is self-evident and increasingly pervasive. All photos: © Walter Sedovic Architects

Also missing from the equation is visual transmittance (VT) and light-to-solar gain (LSG). LSG is important as a component of sustainable performance since often glass and films used to receive low (i.e., positive) SHGC rating reduce the amount of visible light, and therefore require a correspondingly increased use of artificial lighting. Clearly, consumers will benefit as more information is provided on labels, and despite efforts, we are not too much further along in understanding the performance of one window over another, and certainly not over the performance of an existing historic window assembly.

2. Replacement window manufacturers offer the option of reusing existing frames and replacing just the sash, at a more economical cost.

Misleading. As stated above, it is the whole window assembly that determines the performance benefits. Infiltration through a window occurs in many locations, not just the sash. Reusing an existing frame that is not tight, within a wall system that leaks will produce the same effects that existed before the replacement window was installed. Any window system – new or old – must be part of a weather-tight system from the sash to the walls.

Further, several independent studies have shown that windows contribute only 10-12% of overall infiltration to the building envelope. Much more infiltration occurs at roof eaves, foundations and even through wall receptacles, dryer and plumbing vents and fireplaces. Concentrating funds to these elements has a much

greater potential of providing a quick payoff than replacing windows. Replacing sash alone is not holistic, and very likely not economical – it is far better in the long run to replace or restore the entire window assembly.

3. Replacement windows are maintenance-free.

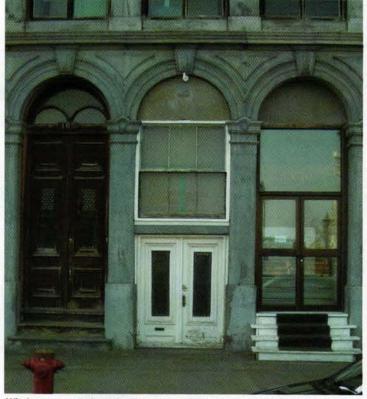
No. As Michael Jackson, FAIA, chief architect of the Illinois Historic Preservation Agency pointed out in his presentation, "Embodied and Operating Energy: Balancing the Eco-Equation," maintenance-free means it can't be repaired. This truism is critically important when deciding whether to replace or restore. Vinyl, fiberglass and aluminum windows – and insulated glass – are formed using materials and techniques that by and large are not conservable. Once they deform, fade, warp or fail in other ways, there is virtually nothing that can be done but turn to replacements...again.

4. Replacing historic wood windows with new wood windows is a fair trade-off.

Not likely. The quality of new wood from managed forests, tree farms and fertilized stock is no match for that of early, natural growth wood that comprises historic window frames and sash. "Wood density is a good predictor of economic value and strength of wood products, determined by the simultaneous increase in late-wood percentage and tree ring density. The short rotation and intensive treatments associated with industrial forestry prolong the growth of low quality juvenile wood, while postponing the growth of

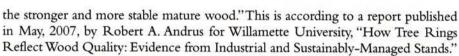


This window replacement resulted in reduced visibility and daylight.



Windows are not the only elements maligned by inappropriate replacements.

Right: Traditional storm window systems offer not only superior performance and energy efficiency, but can also be a graceful complement to the historic sash.



Current wood-grading standards for density were developed during the period of old-growth forestry, and may not be applicable to woods harvested from today's industrial forests.

The bottom line is, new wood is not comparable to early wood. Beyond that, other factors which lead to windows of less desirable qualities include methods of milling, drying and joining woodwork; all of these affect durability and performance. Aesthetically, modern mullions — even when attempting to emulate historic profiles — can be exceeding large, obscuring sightlines and reducing visible light. It remains an unfortunate reality that still, after much discussion regarding this topic throughout the preservation and sustainability communities, noted Landmark Commissions still cling to the idea that replacement windows are acceptable as long as they somewhat copy the superficial elements of their historic counterparts.

5. Installing storm windows will lead to condensation.

Quite possibly. In discussing storm window applications, the choice is often based on aesthetics, or ease of installation and maintenance, rather than on specific regional and environmental conditions. Properly fitted storm windows outfitted with laminated or low-e glass may help to offset the emergence or amount of condensation present, which forms when warmer, moisture-laden air comes into contact with colder glass surfaces. This effect may be mitigated by thoughtful design and selection, and even improved upon over time with alternate choices of weather-stripping systems and glass types.

6. Replacement windows are more energy efficient, and therefore sustainable.

Not true. If you're not already reconsidering replacement based on energy considerations alone, consider these other non-sustainable features of many replacement windows: A poorly performing window that requires replacement after just a few years means additional debris in our landfills, resources extracted for production and energy for manufacturing and transport. None of which is sustainable. Also, the materials that comprise many replacement windows – aluminum, vinyl and



Replacing sash while ignoring the primary sources of infiltration can have detrimental and costly results.



glass – are among the greediest in terms of energy consumption, resource depletion and inability to recycle: all amounting to a heavy environmental footprint.

7. In order to be energy efficient, windows need to have argon-filled, low-e, insulated glass. Not true. It's a fallacy to believe that there is a one-size-fits-all solution to proper window assembly. Environmental conditions, including orientation, play heavily into the choices offered for glazing. Laminated glass is an appropriate substitute for insulated glass, and has many ancillary benefits. It can incorporate historic blown (wavy) glass, it can be field cut, it is safety glass, it is less expensive initially, it won't fail and fog when the desiccant seal fails, it may be outfitted with low-e glass, and it has excellent noise abatement characteristics. Plus it can be installed in existing or new true-divided-light sash, and won't require enormous mullions to support it.

8. Storm windows are cumbersome and high maintenance, requiring removal, storage and reinstallation each year.

Not true. There are multiple manufacturers of elegant wood storm windows, whose products may be outfitted and custom designed for virtually all historic window configurations. They are available in a variety of styles – hinged; multipaned with laminated, low-e and blown glass; and interchangeable screens – that work in concert visually and functionally with operable historic windows. They can be installed (and removed) from the interior or left in place if desired, without affecting the ability to open windows, and allow for natural ventilation throughout the year. Of course, they may also be removed and stored seasonally if desired. They are a relatively inexpensive solution, with demonstrated superior energy-saving benefits that translate into short payback periods. Plus, storm window systems are reversible and easily upgraded.

A 2007 report by Keith Haberern, licensed architect and engineer, and chairman of Collingswood (NJ) Historic District Commission supports this statement. It shows that the payback time for adding a single-pane storm window to an existing single-pane window is 4½ years. But for replacing a single-pane window with insulated glass window, the payback time is 41½ years, and for replacing a single-pane window and storm with a low-e insulated glass window, it's 222 years!

9. Replacement windows increase property value.

Highly dubious. Interestingly, this claim has surfaced with increasing regularity as the argument for payback has become universally disproved. Credible data regarding elevated or declining property values relative to window replacement installations have yet to appear. Arguably, as more becomes known about the shortcomings of many types of replacement systems, data will prove that retaining historic windows actually provides for more stable (or increased) property values; in fact, historic commissions already are advocating just that.

10. Replacement windows pay for themselves.

Nonsense. Replacement window manufacturers generally have backed off of this once-ubiquitous claim, simply because it's patently untrue. As discussed herein, varied studies have shown that far better payback periods are realized through restoration, careful glazing choices, the incorporation of well-designed storm window systems and a healthy cynicism about unproven, off-handed claims. Facts and research are quickly putting this – the most blatant of them – to rest. **TB**

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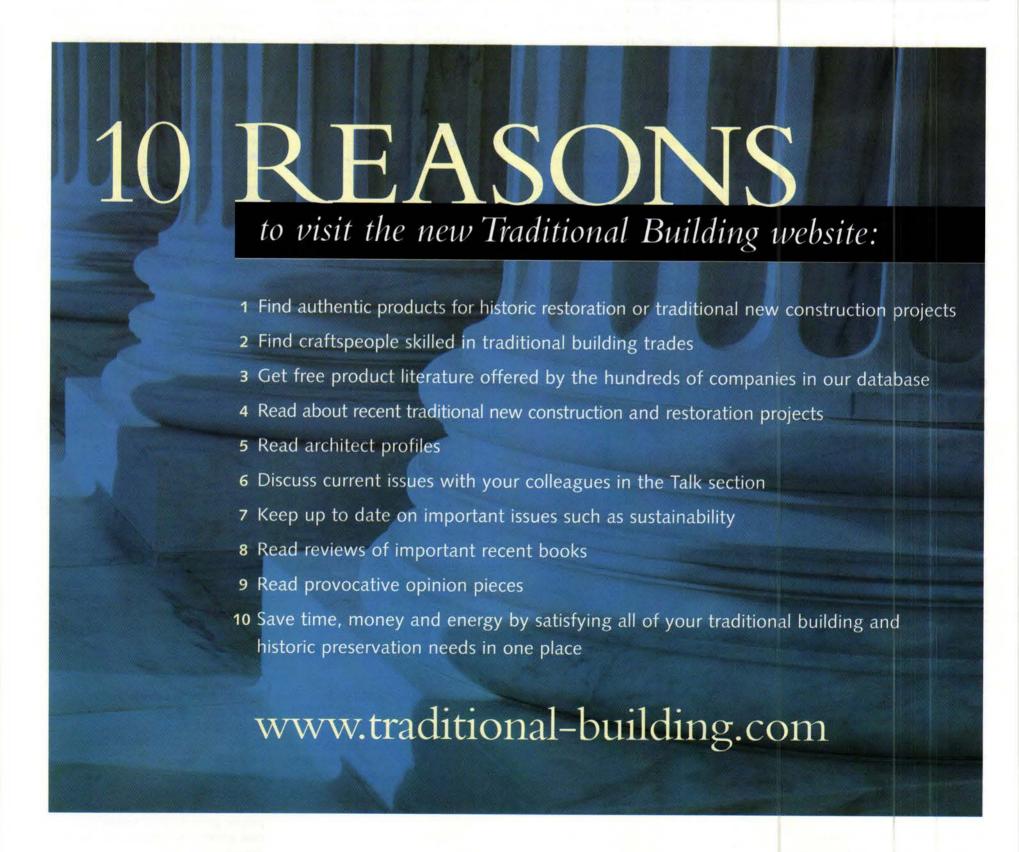
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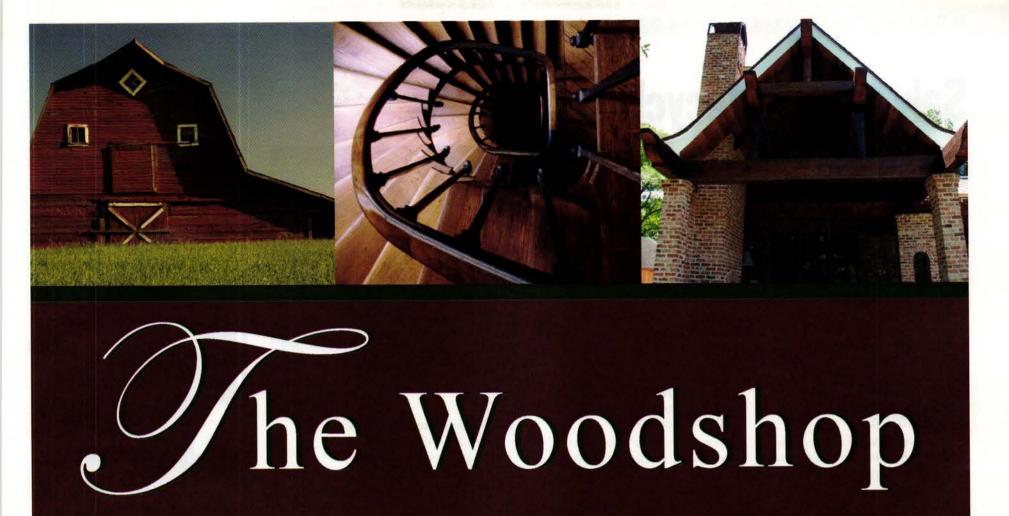
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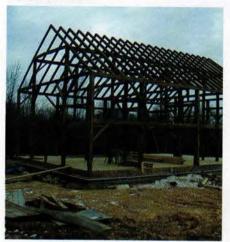
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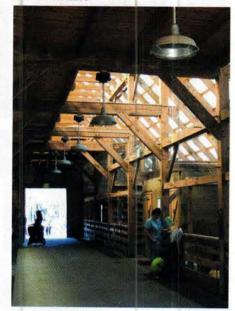
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Plastering

by J. T. Sawyer Reprint Donhead Publishing, Ltd.; Dorset, UK; 2007 144 pp; clothbound; 165 illus.; \$60 ISBN 978-1-873394-83-0

Reviewed by David Flaharty

n their introduction to *Plastering*, Jeff Orton and Tim Ratcliffe note that J.T. Sawyer wrote this textbook during the mid-20th century. During the 1930s and '40s, his homeland, the UK, was deeply involved in the Second World War – a period when new construction was halted while builders engaged in battles at home and on the European continent. In America, the plight of the building trades was further complicated by the Great Depression, which limited the transfer of skills from "father to son" for a similar but longer time period.

Fortunately, Joe Sawyer came from a family of plasterers, and he taught the subject at a technical college in London, England. His book, here reprinted by Donhead Publishing, underscores his technical clarity and teaching ability.

Over time, several books and articles to do with plain and ornamental plastering were published, including one dating from the late-19th century. As photography became the contemporary illustrative mode, drawings became secondary and, in the opinion of this reader, information became more difficult to follow. With paperbacks in particular, photographs were often unclearly reproduced. However, Sawyer uses no photographs, and his freehand drawings are crystal-clear and simple to follow.

Language peculiarities are not an issue. Terms such as "rebates" and "striking off lines" are understandable, even though we may refer to them differently in America. No doubt, working for decades with similar handmade tools allows journeymen to understand the drawings at a glance. However, due to the clarity of the visuals, even beginners using their own tools for the first time will gather skills quickly.

For example, the chapter on running moulds (molds) perfectly illustrates interior and exterior cornice molds, twin horsed panel molds, hinged molds and peg molds. Following the written descriptions while viewing the drawings makes it abundantly clear that the author was a great teacher and a superb craftsman.

While most pieces of equipment are standard in today's tool kits, some seem out of date, especially the wooden hawk. Most suppliers market metal hawks from which the handles unscrew (as do rubber pads) for ease of packing. Small tools are for sale even at lumberyards which supply plaster products.

In the comprehensive chapter on materials, Sawyer touches all bases and seems generally correct. When discussing lath work, he suggests that wooden members, whether riven or sawn, are "almost traditional, so great is the length of time over which laths have been successfully used." In restoration projects, however, it is the experience of this reader that wooden lath is indeed satisfactory without deleterious effects which fracture the scratch coat keys: water intrusion, building settlement, nearby blasting, heavy traffic, introduction of modern electrical, plumbing, HVAC services, etc.

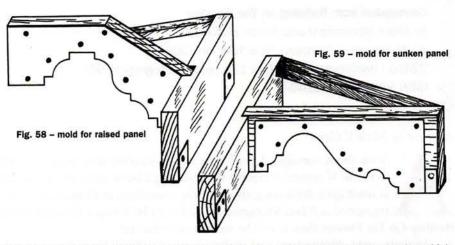
For whatever reason, a large quantity of broken keys often causes ceilings (and walls) to fail. Contemporary techniques, developed in Sawyer's lifetime, involve supporting ceilings from below later to be injected with acrylic adhesives into each lath in each joist bay bonding lath to scratch coat. Laths are secured to joists stabilizing the ceiling.

According to Sawyer, expanded metal lath is superior to wooden members because it is fire-resistant and bituminous coated to avoid rust. It is difficult to disagree that metal lath, as viewed from above a 1920s domed theater ceiling, is far superior to wooden lath, no matter how skillfully wooden lath is applied.

Later in the materials chapter, Sawyer discusses gelatine, or hide glue, for use as a flexible molding material in the manufacture of ornamental plaster products. Glue is melted in a double boiler and poured over a model. After cooling, the mold is treated with alum, whiting and a separator, following which plaster casting begins. Plaster is exothermic and can melt the glue surface especially during summer months, however plaster may be gauged using ice water (blocks of ice are often added to drums of water) causing the plaster to set before it heats up. Glue can be melted again after casting activity, which is an added economical benefit.

Recently, several companies have developed pourable and thixotropic molding rubbers to substitute for hide glue products. The rubbers may not be re-melted for new molding but, with few exceptions, they have a significant "library" life. Cost is no longer an issue as glue materials are now priced equal to molding rubbers. Several urethane formulae have been used for over 35 years and remain in excellent condition. Some new silicone rubbers require no initial release agents and they have rapid cure sequences, which vastly reduce time spent at work sites. Platinum cure rubbers are expensive but hotel, parking and meals expenses are often unnecessary using fast-set materials. A successful ornamental plaster studio should have the capability to use all products, new and old, for maximum work efficiency.

The chapter on geometry and drawing is exciting to ornamental plasterers who have built moldings following Classical elevations and sections. For example, the Equilateral Gothic Arch (Fig. 133) is typical and was used to reproduce benchrun niche head moldings for the restoration of the fire-ravaged Silverton, CO,



Panels can be sunken or raised, so allowance is made on the running mold for depth or thickness of the panel surface. It is usually more convenient for the horse of the mold to travel on the stile, as this method gives shorter miters.

Town Hall. Figure 142 shows a semi-elliptical arch frequently used as part of overdoor moldings in New England Federal houses. Nomenclature is often useful to describe polygonal forms. And this chapter advises plastering students to practice drawing sections of cornice moldings and to "memorize the names of the various parts that form a complete molding." Sawyer's visual description of raking moldings (as often used in broken pediments atop Classical architecture and furniture) is simple and clear, as illustrated in Figure 159.

For the ornamental plasterer, Sawyer's chapter on benchwork will reveal simple additions to an already full vocabulary. A straight length (Fig. 113) is often run over a core which prevents slipping and reduces the weight and quantity of plaster; the clay and nail accomplishes the same result. Figure 114 illustrates model-making techniques for decorative cornice

Fig. 163

Some enrichments, like the conventional egg and dart, bead and reel, guilloche, water-leaf and key patterns, can be drawn geometrically. An example of this is the egg-and-dart (Fig. 162). A fairly well-known method of setting this out is shown in Fig. 163. The centers are found by means of squares of any desired unit, the enrichment being contained in parallel lines nine squares wide. The vertical lines are numbered off from 0 in the centre of the oval, increasing to 7 in the centre of the dart and decreasing to 0 in the centre of the next oval. A "key" or fret pattern – shown in Fig. 164 – is also drawn in squares, each key being five squares broad and five squares high. Similar patterns can be made in bands ranging from four to nine squares wide.

moldings; visits to ornamental plastering studios will reveal this procedure in action on a daily basis. As for casting, Sawyer describes mixing plaster in two distinct batches: "firstings and seconds." This activity is for the purpose of accomplishing all necessary procedures before the plaster sets. Another procedure is to fully gauge the required quantity and remove the finishing amount before the mix is stirred. Clearly, mixing accelerates the setting process. Plaster will adhere to itself if applied in the same gauge. Presumably, Sawyer's reference to canvas means burlap to Americans.

Plastering does not conclude with a glossary, which could have been helpful. Rather, together with Orton's and Ratcliffe's introduction, the preface and biography of J. T. Sawyer illustrates the importance of this handbook.

It should be noted in this review that Donhead Publishing, Ltd. (See Traditional Building, April 2007, page 150 for a review of Donhead's Modern Practical Masonry.) is a significant entity in the field of building conservation whose mission, not unlike that of the US National Park Service, is to document preservation procedures. A visit to their website (www.donhead.com) reveals titles such as Conservation of Historic Buildings and their Contents, Old House Care and Repair, Survey and Repair of Traditional Buildings, and Measurement and Recording of Historic Buildings among more than two dozen publications, both contemporary and reprints.

For the plasterer (both flat and ornamental) it should be noted that Donhead, through its publishing efforts, encourages a comparison between the Sawyer handbook and William Millar's seminal *Plastering Plain and Decorative of 1897*. **TB**

Sculptor David Flaharty runs a Philadelphia based ornamental plastering studio that undertakes architectural conservation and restoration in addition to period design, manufacture and installation for new construction. Trained at Rhode Island School of Design and Cranbrook Academy of Art, Flaharty specializes in 18th-20th century decorative enrichments and concentrates on ceiling medallions, cornices and ornamental metals. With 25 years experience in the field, Flaharty conducts illustrated lectures, hands-on demonstrations and consultation services. Together with restorations at historic houses, significant projects include ornamental plasterwork in the American Wing period rooms at the Metropolitan Museum of Art, the Diplomatic Reception Suites at the U.S. Department of State and the White House.

In Praise of the Lowly

Corrugated Iron: Building on The Frontier

by Adam Mornement and Simon Holloway W. W. Norton & Company, New York, NY; 2007

224pp.; hardcover; more than 130 color photographs; \$60

ISBN 978-0-393-73240-5

Reviewed by Nicole V. Gagné

book about corrugated iron? What's next, a coffee-table book devoted to rivets? If anyone is capable of producing a book on rivets that is half as intelligent, fascinating, thoughtfully researched, and beautifully photographed as Adam Mornement and Simon Holloway's Corrugated Iron: Building On The Frontier, then it will be worthy of praise too.

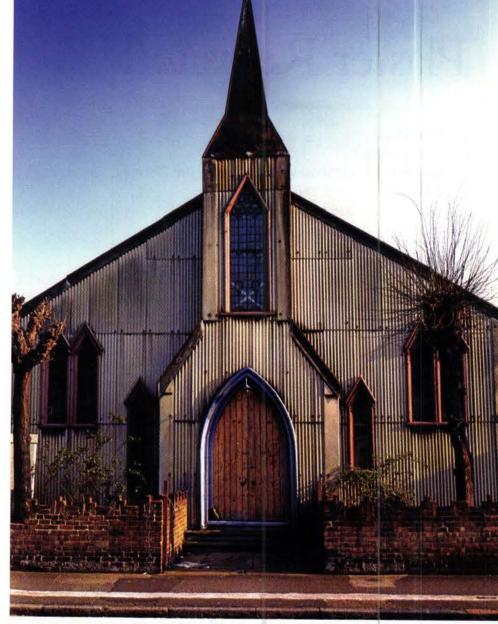
To their credit, Mornement and Holloway are not oblivious to the knee-jerk dismissals of their subject. In their introduction, they readily acknowledge that corrugated iron "has long been burdened by a perception problem. To many it is regarded as cheap, temporary, and ugly; a crude material fit only for use in agriculture, industry, or shanty towns." But they challenge such misperceptions by extolling the virtues of this ubiquitous product, declaring it "a material of the frontier. It makes life possible in places that would otherwise be uninhabitable, whether due to extreme climate, inhospitable terrain, the scarcity of local building materials, or the sheer scale of demand for shelter." Corrugated iron, they remind their readers, "became one of the few products of the Industrial Revolution to be absorbed into vernacular building repertoires and the first truly industrially produced construction material to challenge the historic hegemony of timber, stone, and brick."

The term "corrugated" is derived from the Latin ruga, meaning wave or wrinkle, and its usage in this context was coined when the British architect and engineer Henry Robinson Palmer patented corrugated metal in 1829. Working for the London Dock Company, Palmer needed to construct sheds that were simple, sturdy, and economical, and his innovative treatment of sheet metal resulted in a building material that was rigid and self-supporting yet lightweight, which made it ideal for roofing; at the same time, it was also useful as walls, either in modular units or as continuous overlapping sheeting.

This breakthrough product quite naturally took on the patina of Modernism, and the authors describe how it soon aroused considerable fascination and enthusiasm: "During the 1850s corrugated-iron buildings erected prior to export - to check for defects and to number components - were regularly reported by the newspapers and became popular visitor attractions in their own right." One noteworthy example is an impressive two-story Customs House, designed by architect Edward Salmons and built in Manchester; destined for a settlement in Peru, it attracted 25,000 admiring visitors over a ten-day period in 1854.

Of course, nothing as utilitarian, widespread and just plain humble as corrugated iron could expect to generate such attention for very long, and by the 1870s it was generating more yawns than sighs. That indifference has persisted, and even the use of corrugated metal by such prominent 20th-century architects and designers as Buckminster Fuller, Frank Gehry, Nicholas Grimshaw and Charles and Ray Eames failed to make it as sexy as it once had seemed. Mornement and Holloway's study probably won't turn around that "perception problem" either.

By the early-21st century, corrugated iron can boast a status that's better than being regarded as sexy: It has become indispensable, and quite possibly, it today is "keeping the elements from more people's heads than any other material, a consequence of its prominence in the developing world" - a world that could not have developed as it has without relying upon versatile and inexpensive corrugated



Perhaps the oldest surviving corrugated-iron church on the planet is the former Congregational Church in Hackney, East London, constructed in 1858. Originally a Presbyterian house of worship, it is today known as the Sight of Eternal Life Church and is home of an evangelical sect. The 48-ft.-tall belfry and pointed Gothic-style window frames lend character to what is essentially a corrugated-iron-clad shed with a pitched roof.

metal. (As Mornement and Holloway point out, iron has rarely been used for this building material since the early-20th century; today it's made most often of steel, zinc, aluminum or other composites, despite its having retained the generic name of "corrugated iron.")

But what structures made of corrugated metal are worth looking at now? Here again, Mornement and Holloway have the answers, as Henry Robinson Palmer's sheds for the London Dock Company soon led to an array of applications internationally: By the second half of the 19th century, corrugated iron had become what the authors call "the primary material of a worldwide industrial vernacular, a position that it retains today."

The book is rich with examples of buildings made from corrugated iron in the last century - in fact it has almost as many historic pictures and illustrations as it does contemporary color photos. Those inevitable tunnel-shaped warehouses and hangers soon gave way to domiciles in the Italianate, Bungalow, Chalet, Farmhouse and Cottage styles, as well as stores, ballrooms and gymnasiums designed along Carpenter Gothic lines.

Most impressive visually, however, is the array of houses of worship built of corrugated iron. Mornement and Holloway devote an entire chapter to what locals

familiarly referred to as the "tin tabernacles." This building trend was launched by the Anglican gathering places that were constructed in England's overseas colonies, but it soon came home to roost: From the 1880s until the start of World War I, "thousands of corrugated-iron chapels were erected all over Britain. [...] Some are still in use, others are suffering the ignominy of dereliction, but all are decomposing with grace."

These churches and chapels and mission halls became something of a cause célèbre in England, arousing the wrath of tastemakers such as John Ruskin, who decried the usage of "modern materials" in the construction and decoration of churches. Yet others more wisely saw that what was important was not the church's skin but its soul, and so these buildings proliferated. Abroad, where the strictures were looser and necessity could be claimed, they were a constant, sometimes resulting in grand edifices such as the six iron churches of Australia's Diocese of Melbourne, which were built in the 1850s.

As wonderful as it is to leaf through big picture books of grandiose architectural inspirations, there is nevertheless a unique and genuinely gratifying joy to be had in contemplating the use of something lowly and plain. That rare pleasure is the heart of Mornement and Holloway's Corrugated Iron: Building On The Frontier. TB



The discovery of gold in New South Wales and Victoria in 1851 started a gold rush in Australia, and with the wave of prospecting immigrants came a flood of corrugated-iron buildings. One of the more impressive houses was this "Villa Residence" designed by the Bristol manufacturer Samuel Hemming in 1853.

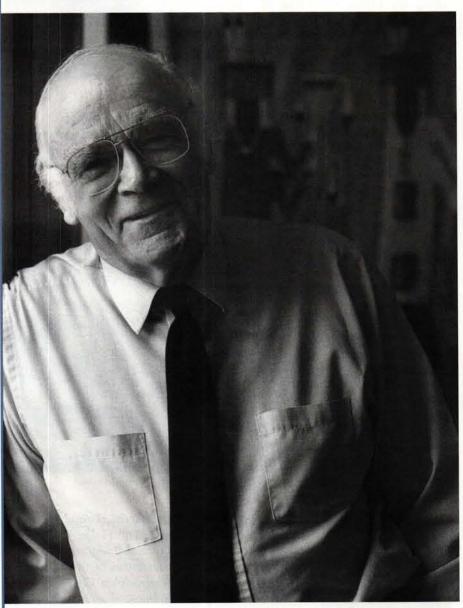
2008 Driehaus Prize and Henry Hope Reed

he 2008 Driehaus Prize for Classical Architecture and the Henry Hope Reed Award were recently announced. The Richard H. Driehaus Prize is awarded to a living architect whose work embodies the principles of traditional and Classical and sustainable architecture and urbanism in contemporary society. Established in 2003 by Richard H. Driehaus, founder and chairman of Driehaus Capital Management in Chicago, IL, the award is presented annually by the University of Notre Dame School of Architecture and includes a \$200,000 award.

Given in conjunction with the Driehaus Prize, the Henry Hope Reed Award recognizes an individual working outside the practice of architecture that has supported the cultivation of the traditional city, its architecture and art through writing, planning or promotion.

The 2008 Driehaus Prize went to the husband-and-wife team of Andrés Duany and Elizabeth Plater-Zyberk, co-founders of Duany Plater-Zyberk (DPZ) and of the Congress for the New Urbanism (CNU). Both are longtime faculty members at the University of Miami, where Plater-Zyberk is dean of the School of Architecture. Duany and Plater-Zyberk have completed new urbanist designs for more than 300 new towns, regional plans and community revitalization projects.

Duany has delivered hundreds of lectures and seminars on urbanism. His recent publications, co-authored with Plater-Zyberk, include The New Civic Art and Suburban Nation: The Rise of Sprawl and the Decline of the American Dream. He received his undergraduate degree in architecture and urban planning from Princeton University and then studied for a year at the Ecole des Beaux Arts in Paris. He received a master's degree in architecture from the Yale School of Architecture. Duany has also been awarded several honorary doctorates, the Brandeis Award for Architecture, the Thomas Jefferson Memorial Medal of Architecture from the University of Virginia, the Vincent J. Scully Prize and the Seaside Prize for contributions to community planning.



The editor, historian and journalist Roger Kennedy is the recipient of this year's Henry Hope Reed award.



Michael Lykoudis, dean of the University of Notre Dame School of Architecture, and Richard Driehaus present the 2008 Richard H. Driehaus Prize to Andrés Duany and Elizabeth Plater-Zyberk.

Plater-Zyberk has taught at the University of Miami School of Architecture since 1979. She founded the graduate program in Suburb and Town Design in 1988. Plater-Zyberk received her undergraduate degree in architecture and urban planning from Princeton University and her master's degree in architecture from the Yale School of Architecture. Her honorary degrees include a doctorate from the University of Notre Dame. She has also received the Brandeis Award for Architecture, the Thomas Jefferson Memorial Medal of Architecture from the University of Virginia, the Vincent J. Scully Prize and the Seaside Prize. She is a board member of the ICA&CA, has been a resident at the American Academy of Rome for 14 years and has served as a member of the Board of Trustees of Princeton University.

The jury for the Driehaus Prize included Richard H. Driehaus; Michael Lykoudis, dean of the University of Notre Dame School of Architecture; Adele Chatfield-Taylor, president of the American Academy in Rome; Elizabeth Meredith Dowling, author and professor at the Georgia Institute of Technology College of Architecture; Paul Goldberger, architecture critic for *The New Yorker*; and David M. Schwarz, president of David M. Schwarz/Architectural Services, Inc.

Previous winners include Leon Krier (2003), Demetri Porphyrios (2004), Quinlan Terry (2005), Allan Greenberg (2006), and Jaquelin T. Robertson (2007).

The recipient of the 2008 Henry Hope Reed award is Roger Kennedy, who has worked as an editor, historian, journalist, banker and public servant and has served on boards and commissions for six presidents. He was the director of the National Park Service from 1993-1997 and is the author of 12 books on American history, architectural history and public affairs. In 2007 he was the co-editor with Austin Tracy of Living on the Edge: Economic, Institutional and Management Perspectives on Wildfire Hazard in the Wildland Urban Interface. His latest book, When Art Worked: The Art of the New Deal Period and Greek Revival America, is scheduled to be published this year.

Kennedy wrote the prefaces for each of the 12 volumes of *The Smithsonian Guide to Historic America*. At NBC, he covered the White House and the Supreme Court and was a correspondent for other news programs. He also wrote documentaries for PBS and for the Discovery Channel.

He received his BA from Yale University and his law degree from the University of Minnesota Law School. Kennedy is an Honorary Member of the American Institute of Architects (AIA) and has won the Silver Medal of the NY Film Critics, a variety of scholarly prizes and many honorary degrees. **TB**

2008 Arthur Ross

the Institute of Classical Architecture & Classical America (ICA&CA) recently announced the winners of its 27th annual Arthur Ross Awards, which are presented for excellence in the Classical tradition. The 2008 awards were presented in the categories of architecture, education, history/writing, painting and stewardship as well as the Board of Directors' Honor. The winners were selected from more than 100 nominations.

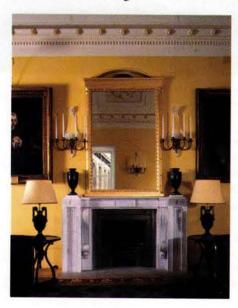
The awards program was established in 1982 by Arthur Ross, chairman of Classical America at the time, and Henry Hope Reed, the organization's president. Over the years, they have recognized the achievements and contributions of architects, painters, sculptors, artisans, landscape designers, educators, publishers, patrons and others dedicated to preserving the Classical tradition. Past honorees include architects such as Allan Greenberg and Quinlan Terry; artisans such

as Historical Arts and Casting and Decorators Supply Co. and others, including H.R.H. The Prince of Wales.

The Arthur Ross Awards are given for a career or body of work, rather than for individual projects. The 2008 jury included Allan Greenberg, chair, architect and author; Anne Fairfax, chair of the ICA&CA, and partner in the firm of Fairfax & Sammons; Michael Cannell, journalist and author, editor of Dwell magazine; Elizabeth Dowling, professor, College of Architecture, Georgia Tech, and author; Elizabeth Suzanne Tucker, interior designer and president of the Northern California Chapter of the ICA&CA; Foster Reeve, master artisan of plaster; Elizabeth Barlow Rogers, author, founding president of The Foundation for Landscape Studies and of the Central Park Conservancy; and Phillip James Dodd, ICA&CA fellow, author and architect with the firm of Wadia Associates.

ARCHITECTURE: John Simpson, London, UK

John Simpson was cited for creating timeless architecture that responds to contemporary requirements. Known in the UK as "Britain's reigning scholar-diplomat architect" (see profile in Traditional Building magazine, February, 2005, page 6), he has been designing traditional buildings for 25 years. In the 1980s he made significant strides toward making the public aware of New Classicism with projects such as his designs at Gonville and Caius College in Cambridge. In 1999,



he won the competition to redevelop the Queen's Gallery as a public gateway at Buckingham Palace. Simpson has also worked extensively with the Prince's Foundation. Simpson's contributions also include urban design. He came to prominence in the early 1990s with his design of Paternoster Square in London and since then he has been the master planner for several mixed-use projects in England. Most recently, he designed an addition to the Carhart Mansion in New York City. (See Period Homes, July 2007, page 15.)

This design of Colyton Hall, Gonville and Caius College, University of Cambridge, illustrates Simpson's expertise with the Classical tradition.

EDUCATION: The American College of the Building Arts, Charleston, SC

America's first and only four-year degree institution that combines a liberal arts degree with a traditional trade school apprenticeship, the American College of the

Building Arts (ACBA) grew out of School of the Building Arts, founded in 1999. In 2005 it evolved into ACBA and now offers degrees in stone carving, architectural metals, finish carpentry, timber framing and plastering. The school is training artisans to become America's next generation of professionals and stewards to preserve our rich building legacy. Recently, ACBA found an appropriate permanent campus on James Island, SC, with the purchase of the McLeod Plantation. The University of Miami School of Architecture's Preservation Studio is developing the site, with the goal of providing a supporting and inspirational environment for the college and the community.



Hands-on studio training is part of the curricula at The American College of the Building Arts

HISTORY/WRITING: Mark Alan Hewitt, Bernardsville, NJ



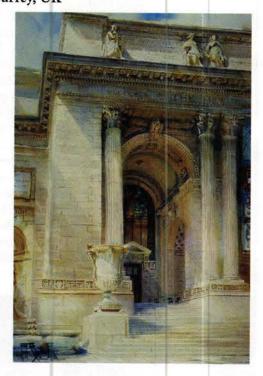
As an architect, historian and educator, Mark Alan Hewitt offers a unique and valuable perspective.

The author of countless articles and books, Mark Alan Hewitt (See profile in Period Homes, November, 2007, page 6) is an architect, historian and educator. He merges his training in the Classical tradition with his experience to reframe the debate on historic buildings, making them natural citizens in the community, rather than untouchable artifacts. He has published books such as The Architect and the American Country Home (1890-1940), The Architecture of Mott B. Schmidt and Gustave Stickley's Craftsman Farms: The Quest for an Arts & Crafts Utopia. Hewitt has also taught architecture and historic preservation at Columbia University and the University of Pennsylvania. His 10-year-old firm, Hewitt Architects, has completed more than 70 projects, ranging from restorations and renovations to additions and new houses.

PAINTING: Alexander Creswell, Surrey, UK

British watercolorist Alexander Creswell's paintings reflect his passion for the architecture of great civilizations. During his 28year career, he has specialized in depicting architecture and the spirit of place. His career began with training in art history and architecture. Creswell is perhaps best known for his series of paintings recording the fire-ravaged rooms at Windsor Castle before and after restoration, which was commissioned by H.M. Queen Elizabeth II. He has also done work for the Prince's Foundation, acting as lead tutor and accompanying the Prince on a tour of Eastern Europe as official artist.

This detail of Alexander Creswell's painting of the New York Public Library shows his mastery of the art form.



STEWARDSHIP: The Committee to Save the City, Charleston, SC

With the goal of restoring Charleston's traditional neighborhoods and protecting its fragile historic districts, The Committee to Save the City has grown to a membership of more than 500 since it was started in 1996. It has also become a model for other historic neighborhoods in America. The grassroots committee has initiated constructive changes in zoning codes and tourist regulations within Charleston's historic district, prompting the mayor to create a Tourism Management Forum. It publishes a newsletter with a circulation of 11,000 and consistently continues to guard the city's historic buildings and neighborhoods.



The Committee to Save the City has been instrumental in saving Charleston's historic neighborhoods.



BOARD OF DIRECTORS HONOR: Alvin Holm, AIA

The Institute is recognizing Alvin Holm, AIA, for his contributions to architecture and education. He has served on the Board of Directors of the ICA&CA and as president of the Philadelphia Chapter of the Institute. His upcoming book, The New American Vignola: A Textbook for Drawing the Orders, will become part of the Institute's "Classical American Series in Art and Architecture."

Alvin Holm, AIA, is being cited for his contributions to Classical architecture and as a writer and educator.

Poetics and Science

By Michael Lykoudis

AS THE LOOMING CRISES OF GLOBAL CLIMATE CHANGE AND FOSSIL FUEL DEPLETION BECOME more of a reality, we are underequipped with respect to the information and data needed to make constructive decisions about how we will live and build in both the near and the long terms. To help direct us in our decision making, I suggest that a new kind of research be pursued and that an institute, or a consortium of schools, universities and other institutions, be established to assist in carrying out this work. Before describing how this institute might work, it is useful to understand what we are up against.

Climate change will undoubtedly bring about conditions that will require mediation and adaptation in ways that were hard for us to imagine even a few years ago. These include unpredictable and volatile growing seasons as the earth's atmosphere warms up. Water shortages, famines and rising sea levels could force mass migrations and new levels of violent weather could change the criteria for construction.

Peak oil production may already have passed or will shortly come to be. This means that we have extracted over half the oil of known reserves. The rate of the demand curve for energy has been increasing as the Asian economies become much more dependent on energy and adopt Western notions of growth and development. Natural gas, which is necessary for the production of ammonia, the necessary ingredient in fertilizer, which currently makes contemporary agribusiness possible, is also being depleted at an increasingly faster rate and its future availability will eventually be limited as well.

Most experts exploring issues of the environment and energy have focused on the development of new technologies that save energy and on the possibility of extracting even more energy from existing solar, geothermal, wind and other technologies. These are all important and need to be pursued, but there are two questions with respect to new technologies that have not been answered.

The first question is: To what degree are the technological solutions based on our oil and fossil fuel economy? In other words, after the embodied energy of a particular product or system such as a solar cell is factored in the equation, from its research and development to its production, distribution, installation and final disposition, what is the net efficiency? How efficient is a hybrid automobile when you factor in the embodied energy of the product over time? It seems efficient when only the fuel consumption is examined compared to other cars, but the batteries that it uses have another cost that is not currently part of the discussion. Most of the calculations for such products are done only at the consumer level, which assumes conventional distribution, life cycles and other costs that may not be realistic or possible in the future

Climate change will undoubtedly bring about conditions that will require mediation and adaptation in ways that were hard for us to imagine even a few years ago.

The second question is: How do the savings from more efficient green technologies compare with the rate of increase in demand for energy? For example, the U.S. government has mandated that all incandescent bulbs be banned in four years, but given the world wide demand on energy created by our current economic model, those energy savings will be lost in a few years.

The combination of the building industry, the built environment and the transportation required to support them consumes about 70% of our energy resources. Little emphasis, however, has been placed on substantially reducing our energy demands by changing how we build and live together. We need to develop a holistic systems-based approach for assessing the sustainability of our culture's economy and built environment.

Traditional architecture and urbanism represent the foundation of sustainability. They are the "original green." Traditional urbanism relies on polycentric cities and towns with pedestrian accessibility, mixed-use neighborhoods and mass transit. Traditional architecture ensures the longevity of the built environment through durable materials and methods of assembly that

conserve energy. Traditional architecture conserves resources by facilitating the adaptive reuse of old buildings. Traditional architecture and urbanism have a significantly smaller carbon footprint than the current models of land use and construction that are based on maintaining high levels of fossil fuel consumption.

It is possible to have a Leadership in Energy and Environmental Design (LEED) certified platinum building perform well at the consumer level but when we factor in the embodied energy over the life of the building we may find out that it is sadly lacking. Many of the glimmering glass and steel certified buildings have high embodied energy in the materials and in the transportation of those materials to the site. If the building lasts only 30 years, this then becomes a fairly short life span on which to amortize that embodied energy. Compare this to an abbey built in England in about 1100 AD from the bricks of a Roman ruin itself built around 300 AD. The embodied energy in the bricks has been used in two buildings and society has gotten 1,700 years plus of use from those bricks. Which is the greener building?

How do we then compare a glass and steel structure with a flat roof loaded with green gizmos compared to a load bearing masonry building with a pitched roof? How do we compare a patch of urbanism with 50-story high rises to a patch of low- to mid-rise apartment buildings? How much do we save on the urbanism and how much is saved because of the architecture? How do latitude, climate, geology and other local conditions affect these variables? Can we quantify these materials, buildings and urban forms from the onset of their construction to their final disposition so that we can make intelligent decisions about them rather than relying on the poetics of our design theories?

What is needed is holistic research that takes into account urban organizations and densities, architectural forms, building materials, building systems and their life-cycle costs and embodied energy with as many variables tested as possible. We need to bring together interdisciplinary teams of scientists, researchers, scholars, practitioners, political and business leaders. The mess we are in was generated in part because of a culture of specialization that never saw the larger problem. It can only be rectified by a

collective and unifying effort.

There is no one institution or entity that is currently able to fully engage such programs of research. I suggest that those academic and pro-

research. I suggest that those academic and professional institutions devoted to traditional architecture and urbanism contribute to a research consortium that would engage, document and help coordinate such research efforts. The consor-

tium could have an administrative center in a major city, its board made up of representatives from the interested schools, centers and institutes. There would be a core staff that would carry out the work, their salaries paid for by the participating entities.

Research is needed to focus on the environmental performance of different construction systems, and types of urban organizations and densities. The consortium would coordinate and suggest research partners for its participants so that, the burden of research is spread out, the most appropriate partnerships are made with the most compatible and complementary participants and ensure that the widest possible circumstances are studied.

The structure of the New Urbanist Transect provides a superb model in which to insert the research findings. The results of building construction research along with the urban modeling could yield significant and useful results as we better understand the implications of the relationship between architecture and urbanism. Laboratories that test materials and assembly methods in as large a context as possible need to be built, perhaps even entire buildings if necessary. Cities in different climates and zones

can generate empirical data for large scale urban-design modeling to better understand the effects of city planning on embodied and other life cycle energy costs.

Not only architects are needed for this work, but engineers, anthropologists, lawyers, doctors and many other professionals. Research needs to be done in business schools to examine current models of growth and consumerism and to search for alternative models that change our conception of economic growth. This research could examine issues that impact society's indirect energy uses, such as the effect of urbanism on health care, and other areas that are not currently linked in conventional thinking.

What is needed is holistic research that takes into account urban organizations and densities, architectural forms, building materials, building systems and their life-cycle costs and embodied energy with as many variables tested as possible.

Schools of architecture are a natural place for the seed of this kind of institution to be planted. Architecture is a unique form of pedagogy that engages almost every discipline at a university: philosophy, mathematics, engineering, the sciences, psychology, anthropology, economics, business, law, preservation and the visual and performing arts. Each school could use its location, its strengths and assets with respect to the other disciplines in its university or college to decide what it is best suited to pursue. Each school could establish collaborative projects with departments in other disciplines at other universities. The consortium's administration would be useful, even necessary, as a coordinator for the work with other institutions and fields. It could also be a repository for the data and conclusions reached by the various groups and act as an information distribution center. Organizations such as the Institute of Classical Architecture & Classical America and the Congress for the New Urbanism could lend expertise and additional talent to these efforts.

For the next academic year, the University of Notre Dame is organizing an intensive series of university-wide and departmental events on issues of energy and the environment. The School of Architecture for its part will devote its lecture series and host a conference on these topics in the early part of the spring semester of 2009. We invite all those who are interested in contributing ideas to this effort to join us to discuss how we might organize such a consortium of collaborating groups. We can think through the who, what, where and why so that we can introduce a larger dimension to the current discussion.

We will succeed only if we can change the perceptual model

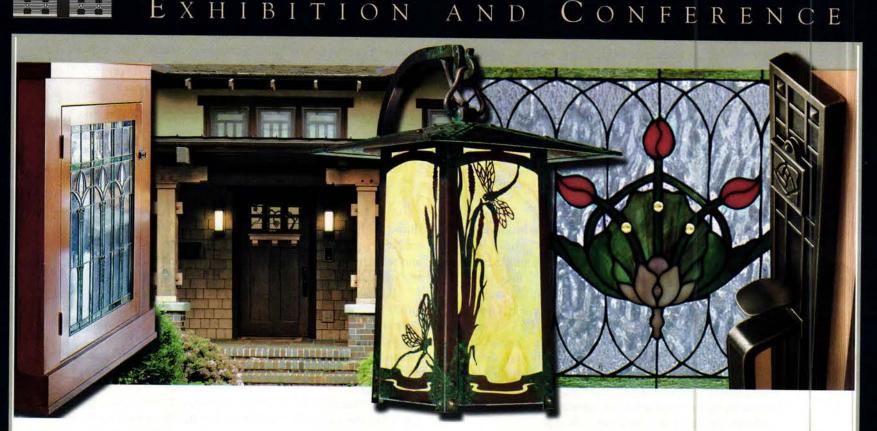
of how we inhabit the planet. To do that, we need to obtain information that we do not have. We can speculate and suggest, but without the data that can prove what we believe, we will not be as effective. We need to think much more boldly than we have before. Each of us, either as individuals or groups or institutions, can exert a significant force on the collective consciousness. In the past 20 or so years, New Urbanists and traditional architects

have already had a significant effect on contemporary attitudes of urban design and architecture. So far it has been more about the poetics and it needs to also be part of the science. In ancient times these two natures were not separate and perhaps it is time that we come full circle to reunite them as one. A research program that links the poetry and the science is necessary and a consortium could facilitate and coordinate our efforts so that we may be more effective.

Michael Lykoudis was appointed dean of the University of Notre Dame School of Architecture in 2002. He is the author of Modernity, Modernism and the Other Modern, forthcoming from W.W. Norton & Co. Prior to joining the Notre Dame faculty, he worked as a project designer and architect for firms in Florida, Greece, Connecticut and New York. He also has conducted his own practice in South Bend, IN, Athens, Greece, and Stamford, CT.



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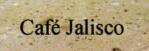
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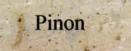


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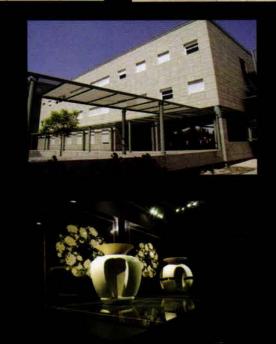












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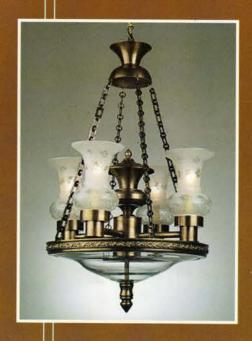
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